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# ART AND ARCHAEOLOGY

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A JAPANESE TEA GARDEN. GOLDEN GATE PARK, SAN FRANCISCO.

*See Romance of Architecture (Page 225)*

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# ART *and* ARCHAEOLOGY

*The Arts Throughout the Ages*

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VOLUME XXVIII

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## THE MYSTERY OF ANCIENT GLASSWARE

By GEORGE W. MOREY

**A**MONG those relics which are valuable as affording an insight into the stage of development of the arts and sciences in past civilizations, none are more interesting in themselves and of greater value in reconstructing the past than those which are made of glass. Such objects are found in excavations of the oldest cities, and archaeological research has not yet been able to fix the beginning of the manufacture of glass. Rather, the progress of archaeological science continues to push farther back into antiquity the beginning of glass-manufacture; and the progress of chemical science, in furnishing an answer to what glass is, and the unique character of this artificial material, emphasizes the importance of the discovery of its composition, and the considerable amount of accumulated observation and experience which it represents.

Most people are familiar with Pliny's story of the discovery of glass, and, because of it, until recent years the

discovery of glass was credited to the Phoenicians. The story is as follows: Mariners, driven out of their course by storm, landed in Palestine, at the mouth of the river Belus, and prepared to cook some food. Wood was available, but no stones to make a fireplace. Accordingly, they took from their cargo blocks of natron, an impure sodium carbonate which was an important article of commerce. The heat of the fire melted the natron, which dissolved the sand of the river bed and formed a transparent glassy mass, a discovery which these shrewd merchants soon turned to profitable account. It is a plausible tale, but modern researches have made it certain that it is apocryphal, for glass-making has been found to antedate the Phoenicians by many centuries.

Egypt has often been claimed to be the birthplace of the glass-industry, and the oldest pieces of accurately dated glassware are Egyptian. The earliest known piece of glass bearing a

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date is a large ball-bead with the cartouche of Amenhotep (1551-1527 B. C.) now in the Ashmolean Museum at Oxford, but specimens from the middle period of the dynasty are numerous. Sir W. M. Flinders Petrie says: "A few pieces of glass had been discovered which could be attributed with fair accuracy to the First Dynasty of Egypt, that is, 5500 B. C., but following this nothing more was found until a few more pieces came to light which could be dated to about 3500 B. C." He comments on the rapid increase in the amount of Egyptian glass subsequent to 1500 B. C., and believes that the actual production of glass in Egypt began at that time. Sculptural records of the same period are found showing Syrian workmen being brought into Egypt, carrying with them vases of glass or metal which they had manufactured. The Syrians were far ahead of the Egyptians up to this period in the matter of art and industry, and the glassware imported into Egypt prior to 1500 B. C. probably was of Syrian origin.

There is much evidence showing that it is to Asia Minor, probably in the northern region of Mesopotamia, possibly still farther north, that we must look for the beginning of glass-manufacture. Glass beads are plentiful in the excavations of a cemetery of the Third Dynasty of Ur (2450 B. C.), and further work in this most interesting region may throw a flood of light on the history of glass-manufacture.

Explorations at Nineveh have yielded much material of value to the student of archaeology, but to the historian of science nothing has surpassed in interest the translation of certain cuneiform tablets of the time of Assurbanipal (668-626 B. C.), some of which bear the colophon of "The

Library of the Temple of Nabu". (*On the Chemistry of the Ancient Assyrians*, Luzac & Co., London, 1925.) One of these is reproduced in Fig. 1. The translation is by R. Campbell Thompson, and represents a noteworthy contribution to science. The tablets are factory records, and give not only the Assyrian names for various kinds of glass, but also directions and formulae for their manufacture. The following excerpt will show the style of this ancient treatise:

"When thou settest out the (ground) plan of a furnace for 'minerals', thou shalt seek out a favourable day in a fortunate month, and thou shalt set out the (ground) plan of the furnace, while they are making the furnace, thou shalt watch (them), and shalt work thyself (?) (in the house of the furnace): thou shalt bring in embryos<sup>1</sup> (born before their time) . . . : Another (?), a stranger, shall not enter, nor shall one that is unclean tread before them; thou shalt offer the due libations before them: the day when thou puttest down the 'mineral' into the furnace thou shalt make a sacrifice before the embryos: thou shalt set a censer of pine-incense, thou shalt pour *k u r u n n u* - bber before them.

"Thou shalt kindle a fire underneath the furnace and shalt put down the 'mineral' into the furnace. The men whom thou shalt bring to be over the furnace shall cleanse themselves, and (then) thou shalt set them to be over the furnace.

"The wood which thou shalt burn underneath the furnace shall be styrax, thick decorticated billets which have not lain (exposed) in bundles, (but) have been kept in leather coverings, cut in the month of Ab.<sup>2</sup> This wood shall go underneath thy furnace."

*Translator's Notes:* 1. "This use of foetus or embryos in the preparation of the furnace is more a question for the anthropologist than the chemist. It may be mentioned, however, that Frazer (*Immortality*, II, 49, note) says abortions appear to be regarded as most malignant . . . . Clearly the Assyrian idea is that the spirits of incomplete beings must be propitiated, on the grounds that they would

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## ART AND ARCHAEOLOGY

have some mysterious influence over incomplete substances, i.e., the glass which is in progress of being made." (2) "The glass-maker is here advised to use wood which will give the maximum of heat; . . . it must have been cut in Ab, the hottest and driest month of the year."

Early glass-making differed in its chief purpose from glass-making of today. The first glassware was in imitation of precious stones, and the earliest glass objects are beads, usually of colored glass. Later glass was used for hollow vessels, which were not blown but molded, probably by applying the glass in a plastic condition to a sand core, which was afterwards removed. Some of the objects made in this manner were of intricate design, with patterns built up in the glass, inlaid in a mosaic fashion, and the dress of a figured subject consisted of as many as 100 to 150 squares of colored glass joined together, the rod of glass being drawn out until threads of it were no more than a thousandth of an inch thick. The colored and decorative glassware flourished in the Ptolemaic period, and the glass houses of Alexandria were long famous. From Egypt the industry was carried to Rome at about the beginning of the Christian Era, and after a century or so became a flourishing industry. In the time of Nero clear drinking-cups and goblets made of glass were made by Roman citizens, and were much prized. In A. D. 220 Alexander Severus laid a tax on the glass-manufacturers of Rome, who existed in such numbers that a principal portion of the city was assigned to them. The Portland vase, whose recent attempted auction brought it again into public notice, belonged to this period of Roman art, probably dating from about 150 A. D. The first mention of the use of glass for



THE PORTLAND VASE.

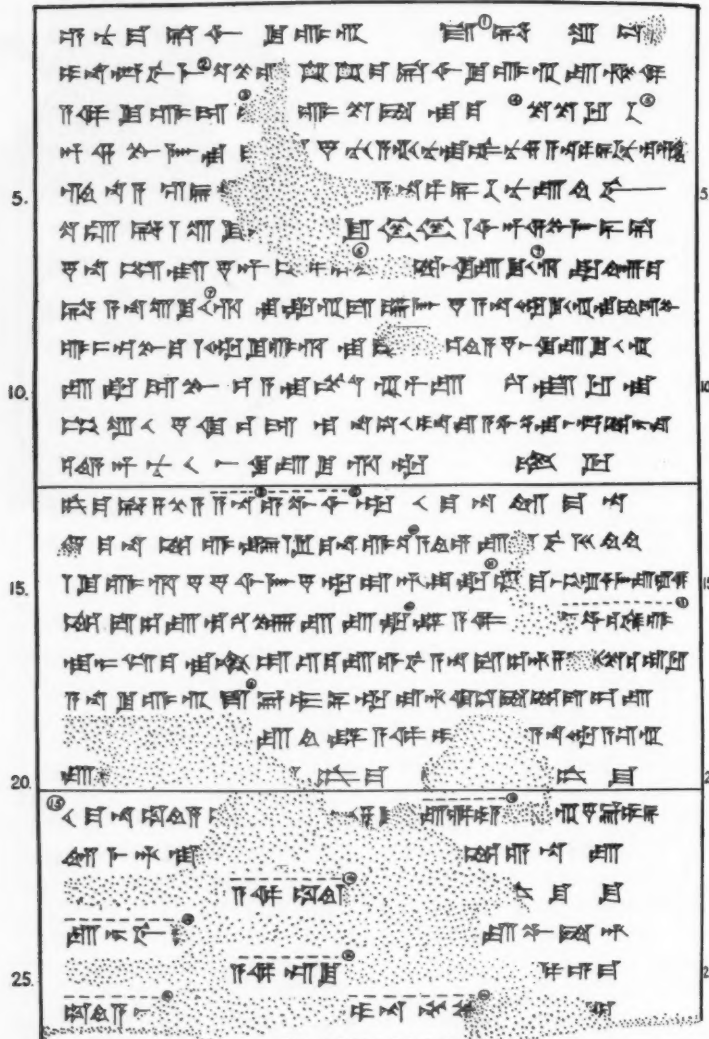
windows is noted by Lactantius, at the close of the third century. From Rome the art spread in various directions; to Constantinople, where it flourished for centuries; and to Venice, where, for the first time, production was on such a scale that the lowered price altered glass from a luxury into a necessity. The technical excellence of the Venetian glassware gives evidence of the highest degree of craftsmanship, while the beauty of its design has never been surpassed.

The mechanical processes of glass-manufacture have developed from the early crude, superstition-ridden, secret art to a scientifically controlled large scale manufacturing enterprise, and it is pertinent to inquire if the progress in chemical composition has been on a corresponding scale. Here we encounter a curious fact. Most glassware, today and from the beginning, is composed essentially of three consti-

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PLATE 1

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Variaants from K. 203 :

① Thus traces: but it may be the beginning of the next character ② Additional: ③ and K.5839 ④ and K.7619: ⑤ and K.5839: ⑥ From K.7619: ⑦ ⑧ ⑨ Probably here ⑩

From K.5839: ⑪ ⑫

Note: ⑬ The text henceforward is a composite one, but approximately correct ⑭ Approximate position

tuent, silica (S) proportion are the 1500 B. analyse includes

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## ART AND ARCHAEOLOGY

tments, soda ( $\text{Na}_2\text{O}$ ), lime ( $\text{CaO}$ ) and silica ( $\text{SiO}_2$ ). Moreover, in general the proportions of these three constituents are the same today as they were in 1500 B. C. This is well shown by the analyses in the following table, which includes only the major constituents.

mation; must merely get stiffer and stiffer, passing by imperceptible stages from a fluid molten mass to hard brittle glass, remaining homogeneous and transparent throughout the process. At no stage in the cooling is there a sudden change in properties, such as is

[From Neumann. *Z. angew. Chem.* 38, 766 (1925); 40, 963 (1927)]

Analyses of Ancient and Modern Glassware.

		1.	2.	3.	4.	5.
Silica	$\text{SiO}_2$	67.82	63.86	65.95	67.74	69.42
Lime (and Magnesia)	$\text{CaO} + \text{MgO}$	6.33	12.04	8.26	7.66	9.19
Soda (and potash)	$\text{Na}_2\text{O} + \text{K}_2\text{O}$	16.05	23.46	21.26	21.70	18.22
Alumina (and iron)	$\text{Al}_2\text{O}_3 + \text{Fe}_2\text{O}_3$	5.44	1.32	2.77	4.48	2.71

1. Dark blue opaque glass from broken vessels from the Tombs at Thebes, 1500 B. C.
2. Transparent glass, Tell el Amara, 1400 B. C.
3. Egyptian glass, Island of Elephantine, 200-100 B. C.
4. Roman glass, Mainz, 2d Century, A. D.
5. Modern bottle glass.

It will be seen that, after all, the composition of glassware has not changed much in four thousand years. To be sure, there are today many special glasses, such as Pyrex and certain glasses for optical purposes, which are essentially new and different, but these are but a fraction of the total glass manufactured. The great bulk of glass today has the same composition as ancient glassware. What is the reason for this apparent lack of enterprise along chemical lines, when progress has been so marked along mechanical lines?

First consider the nature of the material. Glass is characterized by such peculiar properties that it is almost a fourth state of matter. Most materials and mixtures when cooled after melting change from the obviously liquid state, freezing into opaque aggregates of crystals. To form a glass, the molten material must cool without undergoing any such transfor-

found on cooling all other molten materials. When a molten metal or salt is cooled through its freezing point, it changes suddenly from an obviously liquid condition to an obviously solid or crystalline condition. Both the marked change in properties, and the suddenness with which the change takes place, are characteristic of the freezing of all substances other than glass, and are entirely lacking in glass. But this is not surprising, for these sudden changes are the marks of a transformation from a liquid to a crystalline solid, and glass remains a liquid throughout the cooling. All glasses are liquids; and glass may best be defined as a liquid whose rigidity is great enough to enable it to be put to certain useful purposes. A glass can only be obtained by cooling a melt through its natural freezing point in such a manner that the transformation from liquid to crystalline solid does not take place. A glass has a natural

## ART AND ARCHAEOLOGY

freezing point. Common window-glass can be induced to freeze by proper heat-treatment within a narrow temperature range, above a bright red heat. Then, however, it is no longer glass but a very different white opaque mass, which must be remelted to transform it again into glass. Of all the possible mixtures of all the materials known to man, only three types of mixtures are characterized by this tendency to pass through their natural freezing points unchanged, persisting as rigid liquids at ordinary temperatures. These three types are characterized by the presence of phosphates, borates, or silicates, and the silicates are the glass-formers *par excellence*. Apart from other considerations, only the silicates possess the essential quality of remaining unaltered by water and atmospheric agencies. Hence of all the possible combinations of matter, only those combinations high in silica—that is, which contain a large proportion of the composition characterizing ordinary sand—are possible for glass-manufacture. But of the silicates, the combinations that are suitable for glass-making are strictly limited. Ordinary rocks are silicates, and the common rocks can be melted in the glass-furnace, but the chemical ingredients of none of them are such as to be possible for glass-making. They either freeze and become opaque on cooling, or are so thick and viscous that they can not be properly worked at the highest temperatures.

As a practical matter, then, glass ingredients are limited to silica, lime and alkali; and glassware from the earliest times has been made from these materials. But even here the proportions must be kept within narrow limits. Sand, lime and soda may be mixed in any proportion, but only a

restricted composition-range will give a glass. That such a narrow composition-range exists was the discovery which marked the beginning of glass manufacture; and to keep the secret of the proper proportions of the various ingredients of glassware has been the prime motive of the secrecy and mysticism within which glass-manufacture has been shrouded from the earliest times to the past decade, and from the influence of which the industry has not yet freed itself. The reason for this restricted composition-range is to be found in the physico-chemical relationships of the ingredients, and once these relationships are known, long-cherished glass formulae become obvious deductions from them. These physico-chemical relationships have only recently been discovered by workers in the Geophysical Laboratory of the Carnegie Institution of Washington.

The secret is simple, once it has been found out. The various ingredients of glass, essentially soda ( $\text{Na}_2\text{O}$ ), lime ( $\text{CaO}$ ) and silica ( $\text{SiO}_2$ ), i. e., common sand, combinewith one another in several different proportions to form various compound substances, each of which is an essentially new and novel substance. These various mixtures all melt at different temperatures, and possess in varying degree that property which is the prime necessity in glass-making: the tendency to pass from the thin molten condition to the hard, rigid condition without altering to an opaque mass. Now of all the various compounds formed, there is one which far surpasses all others in this tendency, possibly because of its complex composition, represented by its formula  $\text{Na}_2\text{O} \cdot 3\text{CaO} \cdot 6\text{SiO}_2$ . Moreover, mixtures from which this compound should separate, and from which it can be



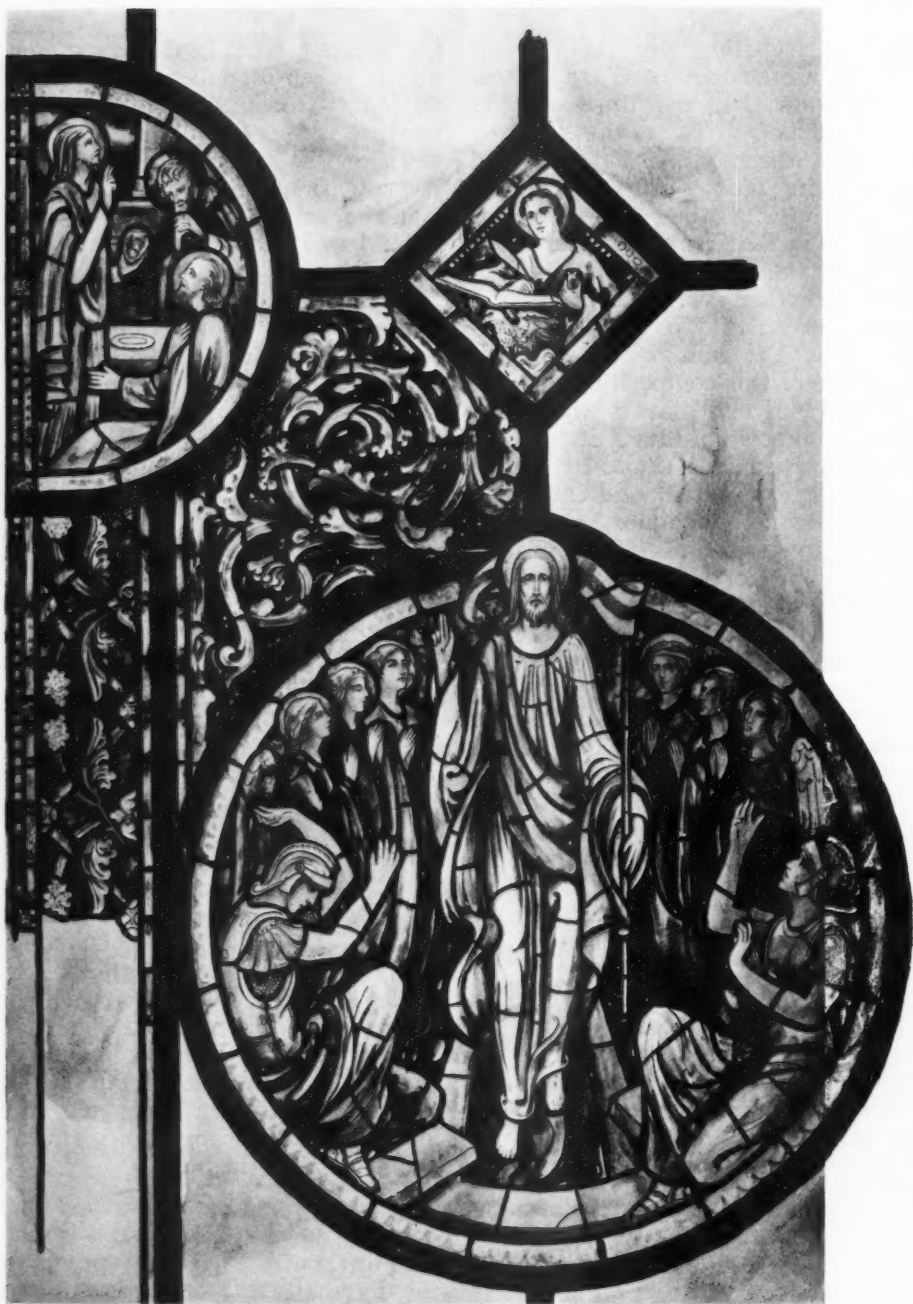
## ART AND ARCHAEOLOGY

made to separate by appropriate coddling, are characterized by a lower melting-point than any other mixtures of the ingredients. The result is that by the time these mixtures have reached their freezing temperature they are so stiff and viscous that the molecular change or movement which causes the glass to become opaque can hardly take place, and then very slowly. So a mixture of this lowest-melting composition is the ideal glass; and all glasses are of this composition, or near to it. As long as a glass is within this critical composition-range it can be melted, worked into shape by rolling or blowing, reheated and annealed without becoming opaque. But depart in any direction, and failure results. Add too much or too little silica, and the melting-temperature rises, the compounds that tend to separate are no longer the sluggish  $\text{Na}_2\text{O} \cdot 3\text{CaO} \cdot 6\text{SiO}_2$  but more individualistic ones, which do separate, and the glass becomes opaque and worthless. Too much lime, and the glass becomes opaque; too little lime, and it is so susceptible to atmospheric agencies, especially water, that it is worthless. The same is true of the glass containing too little silica; too little of either lime or silica means too much soda, and the glass is not durable.

Thus we see that glass is not a material of haphazard composition. It is unique in the proportion of its ingredients; and these ingredients are strictly limited in character. To be sure, no ancient glass, and no glass today, is a pure soda-lime-silica glass;

impurities present in the raw materials added other ingredients, but only in secondary amounts. So long as the mixture was essentially soda, lime and silica, a glass resulted; if the impurities became preponderant, failure alone could result. There was, however, some leeway, both in the amount of impurities, and in the proportion of the major ingredients. The better glasses of today are so proportioned that the soda is kept as low as possible, to make the glass more resistant to water, although it is thereby rendered harder to melt. But in the primitive glass-manufacture, the low-melting feature was more important, and as a consequence the alkali content of the older glasses was higher than is considered good practice today. In fact, glass which has been preserved in Egyptian tombs since 1500 B. C. would be rejected by the critical user of today as lacking in durability.

Nevertheless, glass, however crude, is a unique artificial material, whose discovery must have been one of man's earliest conquests of his environment. Even though it was by chance, to have made such a discovery argues no mean mental development, possibly one superior to still-existing primitive people. That the secret of glass was brought from that mysterious region north of Mesopotamia from which civilization itself emerged, places the beginning of this mighty industry in the very cradle of the human race, and points to a high mental capacity in the earliest peoples whose relics afford us an insight into the past.



FRAGMENT OF NORTH TRANSEPT WINDOW, THE FIRST PRESBYTERIAN CHURCH, CHICAGO. TALLMADGE AND WATSON, ARCHITECTS. GLASS DESIGNED AND EXECUTED BY ANNE LEE WILLET AND HENRY LEE WILLET.

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## THE WINDOW

By ANNE LEE WILLET

**D**R. Morey's interesting discovery that glass, as to its chemical consistency, is not a solid, but a liquid, held in a state of suspended animation, fascinates one as a confirmation of instinctive conviction, and as another instance of the truth that physical facts, when we discover them, are always found to be symbols of spiritual realities to which we were already sensitive.

For, turning from the glass of commerce to glass in its highest artistic expression as found in colored windows, whose purpose is the completion and decoration of great architecture; which of us who has felt beauty and healing steal into his soul from the panes of a Gothic cathedral, has been able to think of the window as other than an organ for the sun to play its harmonies of light upon; holding its vision glorious in suspension at the moment of ecstasy, pulsing in quick vibrations to the subtle mystery of light transfused with color, and diffusing itself like incense through the aisles and alcoves.

We have felt the window a thing of life as it floated into the room towards us from the Portal of Chartres, or from

the sanctuary of West Point Chapel, and it has been observed that it is, as Hawthorne told us, at once the most fragile and yet the most enduring form of art in color we have; increasing as it

does in beauty and tenderness for hundreds of years after the most carefully preserved paintings have rotted into oblivion; and now comes the great chemist from Washington, to assure us that glass is not a frozen stone, but still a fluid, only rigid enough to be held to a purpose. Also its atoms in their fusing have been arranged by the Creator in some order not yet fully understood by us, so that the rays of light pass between them uninterrupted, and we

know of no other medium of which this is true.

Therefore the stained-glass artist, if he be worthy of the name, does literally paint with the light, and to him is entrusted a work of tremendous importance, for how dead is the finest architecture without the glory of vibrant light, beautified, controlled and distributed by color; and how essential that he bear in mind always that he is working with two media: light, and



FRAGMENT OF TRACERY. GRADUATE COLLEGE, PRINCETON. WILLIAM WILLET AND ANNE LEE WILLET, ARTISTS.

## ART AND ARCHAEOLOGY

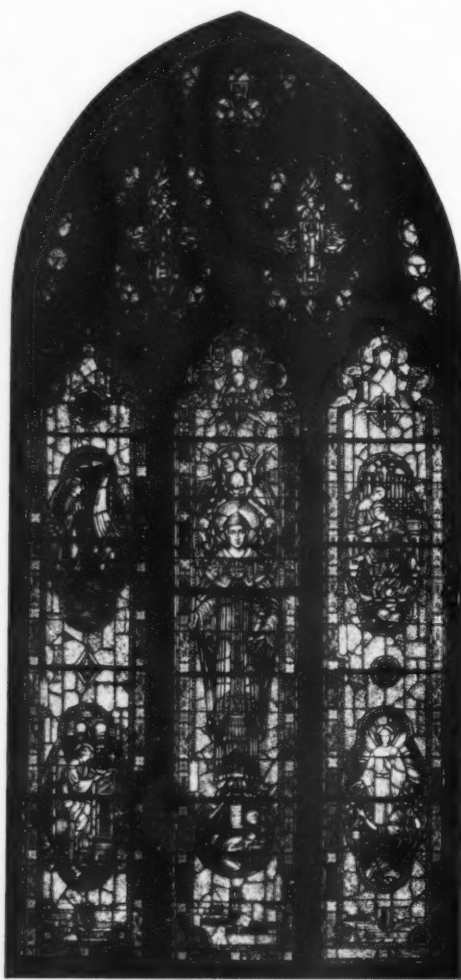
glass which holds in its own atoms the colors of the rainbow. He must concern himself first with admitting the proper light into the particular building on which he is working, and he must realize that color should be used only to beautify, diminish or intensify that light, for the window is an integral part of the wall.

In order to secure the proper result, the first requisite for the artist, then, is to see and know the light with which he is to deal, and he should never consider his work achieved until he has studied it *in situ*. Windows in ancient days were constructed in the building, and should be now, wherever possible; for the darknesses of the roof eat up fabulous quantities of light, and the shifting shadows of outside buttresses work strangely. One may have a window exquisite in the studio, and want to make many changes after it reaches the peak of the building, or its color-values have been changed by some adjacent wall.

Much of the charm of the mediaeval windows lies in the fact that they were literally built in place, and if this is borne in mind we shall realize why the modern pictorial windows, and so many of those sent from abroad, are failures. Though we may still go to the other side for the glorious rubies, blues and greens of our palette, the subject being decided upon, the window itself should be built in collaboration with the architect, and with frequent study of the light in the interior of the building.

As in all other lines, the true artist must be the master of his materials, and thorough draftsmanship of the human body is more essential to the stained-glass artist than to any other, for he has not the opportunity, as in

canvas painting, to lose uncertain drawing in atmosphere or misty perspective, since we have neither in stained-glass. He must draw with straightforward ac-



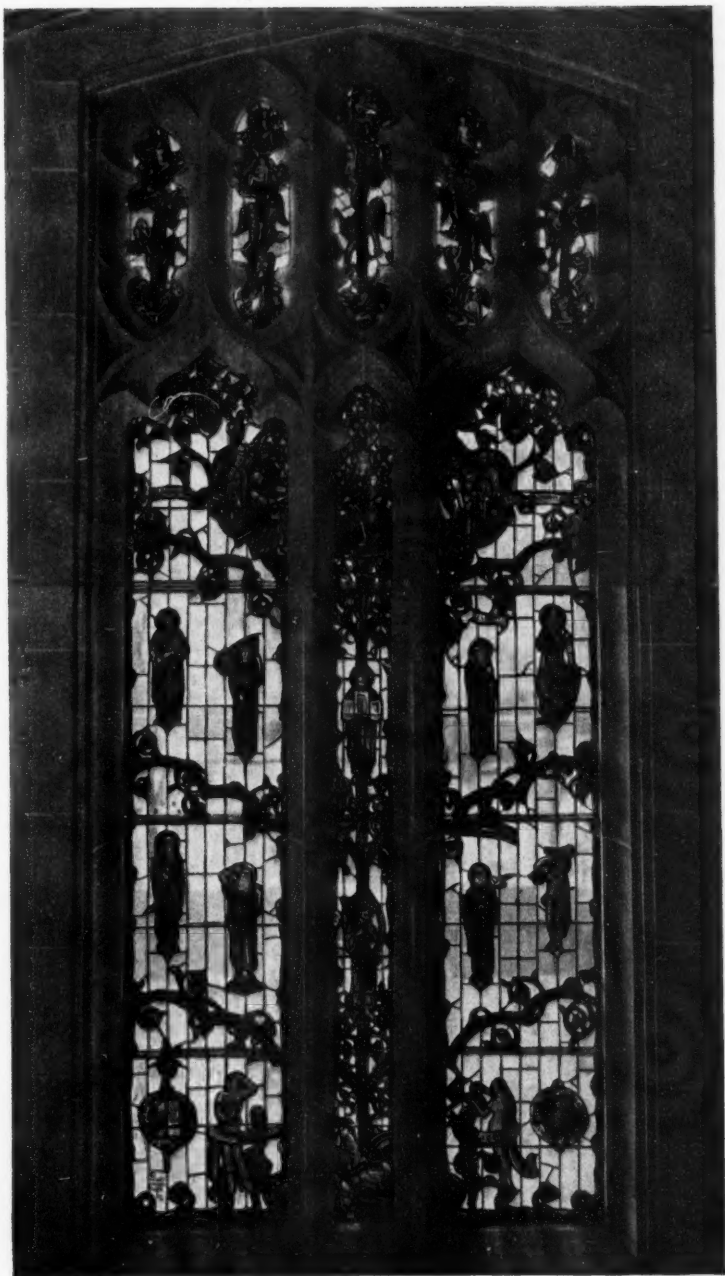
PAGE MEMORIAL, ST. COLUMBA'S CHURCH, WASHINGTON. RODIER AND KUNDZIN, ARCHITECTS. DESIGNED AND EXECUTED BY ANNE LEE WILLET AND HENRY LEE WILLET.







HARRISON MEMORIAL, CALVARY P. E. CHURCH, GERMAN-TOWN, PHILADELPHIA. WILLIAM WILLET AND ANNE LEE WILLET, ARTISTS. STEWARDSON AND PAGE, ARCHITECTS.



NARTHEX WINDOW, GRAHAM TAYLOR HALL, UNIVERSITY AVENUE,  
CHICAGO. WILLIAM WILLET AND ANNE LEE WILLET, ARTISTS.  
HERBERT HUGH RIDDLE, ARCHITECT.

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## ART AND ARCHAEOLOGY

curacy. Drawing for him is, as Hunt used to tell us, like pistol-shooting; and it is an interesting fact that the good draftsman is sure to be a good marksman. His palette is a palette of crushed jewels, the leading and the iron bars with their contrasting black lines enhancing the glass, and adding to the strength and virility of the whole. As Von Ogden Vogt wrote of some medallion windows recently in-



ANGEL FROM RIGNY-LE-FERRON. WILLIAM WILLET.

stalled in the Hilton Devotional Chapel: "What you have is not the lesser manner of picture-painting on glass, but glorious compositions made by glass itself; you get the pictures, but you get also enchanting patterns. And then again you get the lavish cascade of jewels which no picture-painting can produce. No other technique can produce this splendor, which it is the peculiar possibility of glass to effect."



By Permission of Rev. J. P. Shaw.

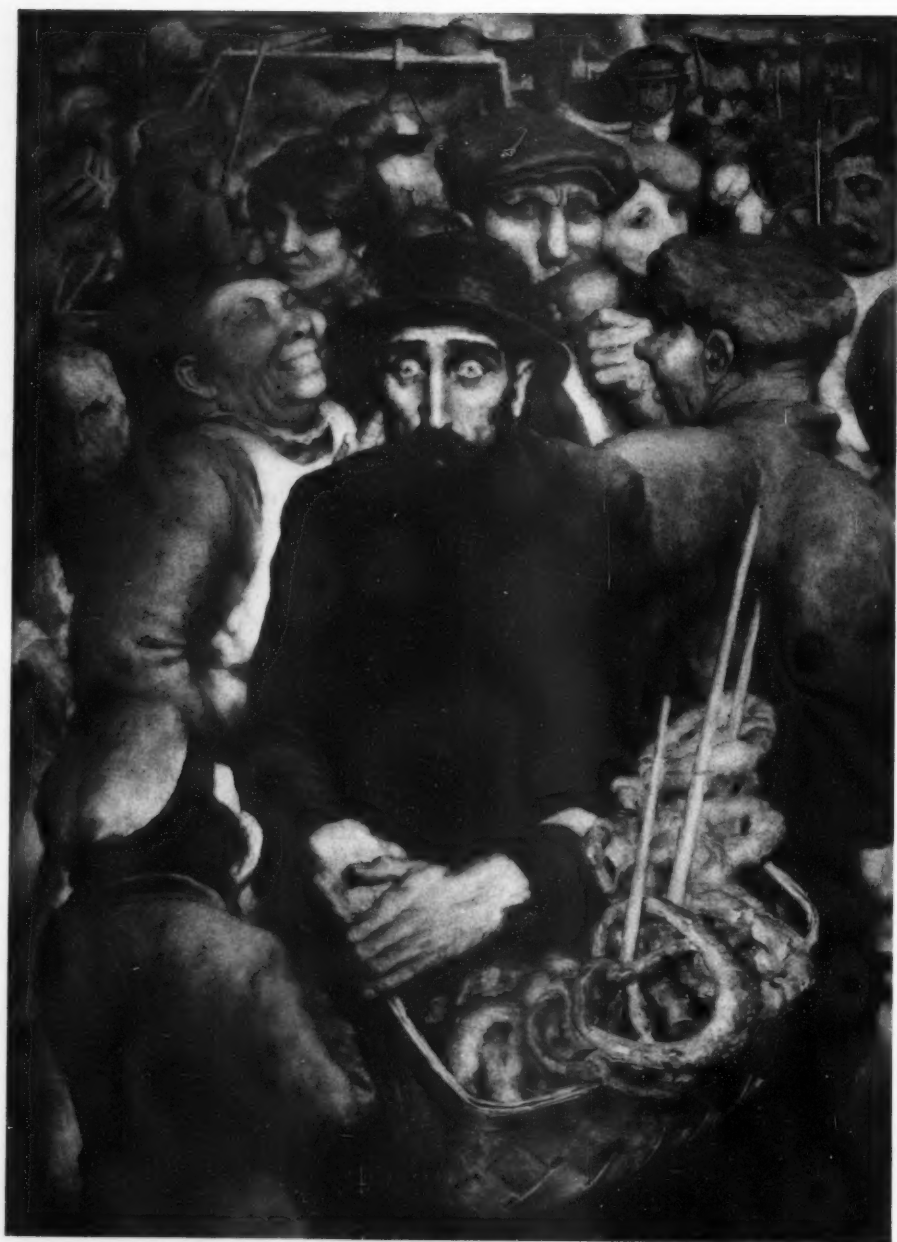
RELIEVING THE PRISONERS. NORTH AISLE, ALL SAINTS, NORTH STREET, YORK.

With these requirements you may ask, "Are the windows of the XIIth and XIIIth centuries the type we should carry out in this, the XXth?" In manner of workmanship, yes. The windows of Chartres, the holy of holies of stained-glass, may never be surpassed, as some tell us. Most certainly they will not, if we copy them,

(Concluded on Page 223.)



ANGEL FROM RIGNY-LE-FERRON. WILLIAM WILLET.



"THE PRETZEL MAN." BY JAMES CHAPIN (AMERICAN).

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# THE CARNEGIE INTERNATIONAL EXHIBITION

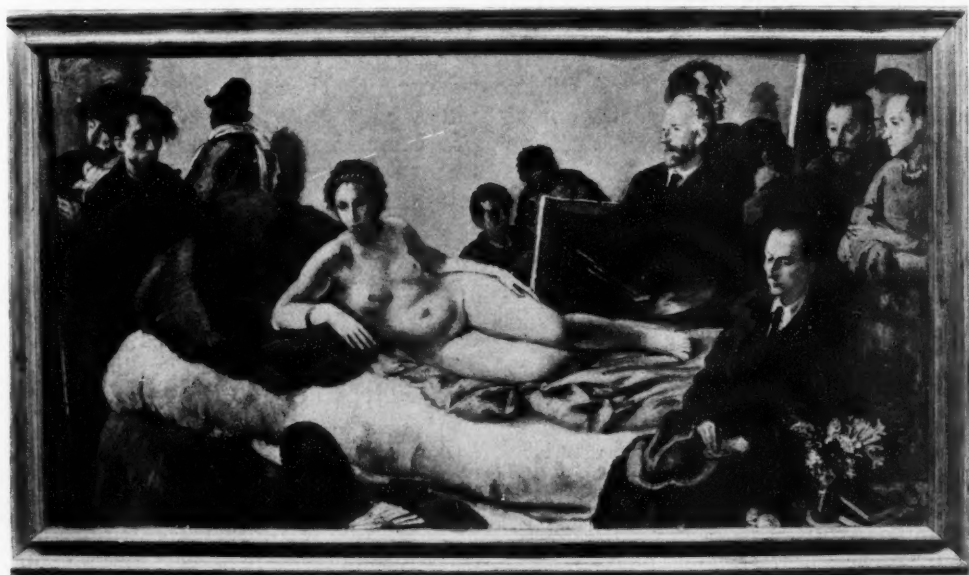
By YARNALL ABBOTT

IN the prepared notice which the Carnegie Institute sends to the press, the statement is made that "The International sets forth all aspects of present day art". This is an interesting claim and the Carnegie is almost the only institution in the world which is in a position even in part to fulfil it. Of course, it is only measurably fulfilled. The work of 124 painters can hardly be completely representative of the contemporary art of the western world.

But, literally exact or not as it may be, this statement gives the key to the proper evaluation of this most important exhibition. For these pictures are not shown as being Mr. A's or Mr. B's or Mr. St. Gaudens' idea of good art, or as the selection of such and such a jury

—as a matter of fact the jury selections are almost negligible, both in number and importance—but as the result of an attempt to demonstrate, without prejudice, what is being done today in the art of painting. The show is as impersonal as is the table of current fiction in a book shop.

And, like the book shop table, it contains good, bad and indifferent products and examples of most, if not all, of the technical "manners" with which our world is now concerned. There is rather stodgy Victorianism; there is precious, if some times uninspired, craftsmanship; there is considerable of the sloppy variety of so-called "modernism" and, *Deo gratia*, there are numerous examples of painting which, to the present writer, seems



"THE STUDIO." BY FELICE CARENA (ITALIAN). AWARDED FIRST PRIZE.



"WAITING ROOM." BY ALESSANDRO POMI (ITALIAN).

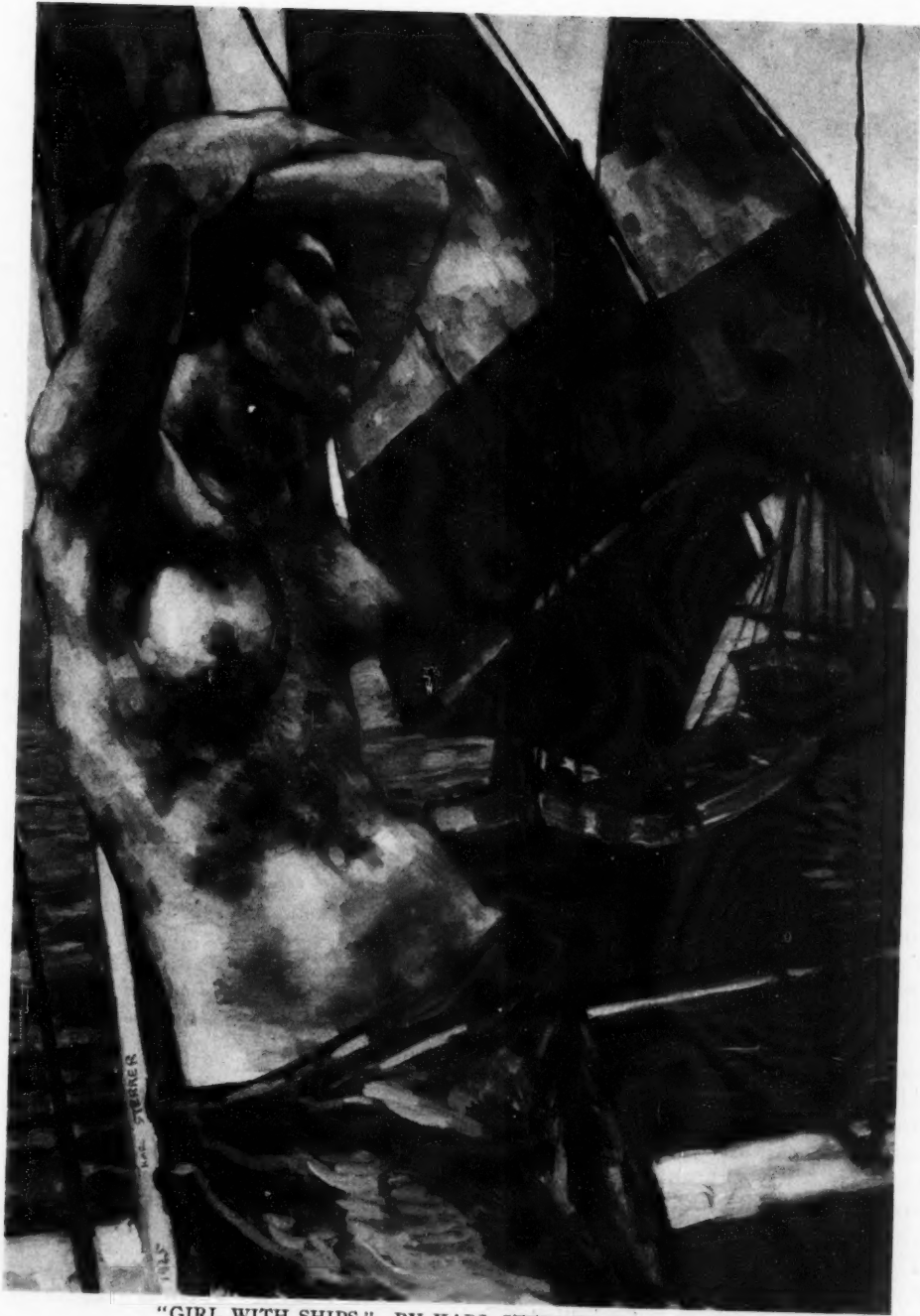
to be in the truly "modern" spirit; work in which there is some element of creation and in which the artist has shown himself strong enough, while making full use of the newer principles, to develop a personal quality as distinguished from the rehashing of other people's formulæ. And, incidentally, I submit that there is no more virtue in the imitation of the manner of Cezanne or Matisse or the Dadaists than in copying that of the Hudson River School.

Taking then this matter of creative originality as the test I find myself not immensely impressed by the prize-winning canvases. Even the first prize picture, Carena's *The Studio*, seems an uninspired reiteration of a

renaissance theme, relieved from stupidity only by its size and by some very handsome painting, much freer and looser than one would imagine from the reproduction. Carena's group is fairly typical of modern Italian painting as is, I think, the entire section, presenting as it does a range from Oppo's luscious nudes to Bacci's tightly-patterned group. Alessandro Pomi in his *Waiting Room* shows really distinguished painting though no conspicuous sense of design.

Most interesting, because most personal, is the work of the Austrian, Karl Sterrer. These five canvases are to me among the most successful things in the show. Here is real design and color achieved without apparent de-





"GIRL WITH SHIPS." BY KARL STERRER (AUSTRIAN).

## ART AND ARCHAEOLOGY



"PORTRAIT OF DR. B." BY TAMARA DE LEMPICKA (POLISH).

rivation from any other painter and without distortion or grotesqueness of any sort. Sterrer paints flesh in a manner which is entirely his own, modelling in lozenges of strong color but without allowing this technical trick to obtrude itself.

The other Austrian, Anton Kolig, is almost as distinguished: His work is broad, rugged and very colorful. If these two are representative of Austrian painting of today, I wish we might see more of it.

The Poles also have something to say, notably Tamara de Lempicke, whose *Portrait of Dr. B.* is an unusually

brilliant union of strong design, handsome painting and very evident portrait quality.

Among the Spaniards an Honorable Mention was given to Joan Junyer for *Festival in Mallorca*; an original and striking canvas, which yet seems to me to have not quite "come off". The black bodices of the dancing figures are so unrelated to the high-keyed color scheme as to produce "holes" in the canvas. Titto Cittadini, of the Spaniards, is another painter who has used the modern prescription of strongly marked design to great advantage. His three rugged landscapes are most successful in their austerity and handsome color.



"THE SOUL OF A SOULLESS CITY." BY C. R. W. NEVINSON (BRITISH).

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"LANDSCAPE WITH FOG." BY GEORGINA KLITGAARD (AMERICAN).

Not all of the foreign groups are as worthy of high praise as those already mentioned. That of Germany, for example, seems lacking in distinction. The work of Max Beckman, to whom was awarded an Honorable Mention for *The Loge*, is, to me, both crude and heavy, as is most of that of the other Germans with the exception of Wolf Rohricht, who shows strong and rather fine color.

The French group, while large, is not particularly representative. The larger of the two rooms in which it is hung seems, at first glance, oddly conventional. Even the magnificently painted and dignified groups of Aman

Jean and Jean Paul Laurens, really beautiful as they are, do nothing to dispel this impression. The five sombre Forains certainly do not enliven the wall, supreme character studies though they be, while de Segonzac's muddy modernism is, to me, frankly depressing. Paul Signac's gay experiments in modified pointilism are hung in the smaller room, and Georges Dufrenoy's group, which includes the Third Prize picture, *Still Life with Violin*, while mildly amusing in color, is, to me, totally lacking in design and distinctly unpleasant in painting.

The Russians have not much to say and Norway, Sweden, Switzerland,



"POLLESA, MALLORCA." BY TITO CITTADINI (SPANISH).

Holland and Belgium do not seem to demand comment; but the one representative of Czechoslovakia, Oldrich Blazicek, presents a strong and colorful group.

Next in importance to the American group in point of size is that of Great Britain. Twelve artists are represented by 52 canvases and the gamut is run between the complete conventionality of Alfred Kingsley Lawrence, Harold Knight, Howard Summerville and even Sir John Lavery, and the brilliantly patterned forms of C. R. W.

Nevinson, the extraordinary flights of fancy of William Roberts and the equally amazing fantasy of John Keating: *Night's Candles are Burnt Out*, in which a priest, a painter, a skeleton on a gibbet and other characters too numerous to mention are meticulously and excellently painted against a background of what is apparently part of an immense but unfinished water-power dam or viaduct. Other work in the newer manner is furnished by Paul Nash, whose *Sea Holly* won the Garden Club prize and whose work, while

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## ART AND ARCHAEOLOGY

cleverly patterned, seems a bit thin and gray, and by S. J. Peploe. James Pryde, however, rises above his surroundings with three great and monumental canvases. To my way of thinking there is nothing more original and nothing handsomer in the show. In two of these, *The Monument* and *Victory*, great war-memorials loom against sombre skies, while in *The Bed* a similar effect of dignity is gained by sheer juxtaposition of dark and light—not entirely intelligible, perhaps, but most moving.

Naturally, the largest national group is that of the United States, comprising some 136 paintings, the work of 60 artists.

American work, then, furnishes almost one-half of the Exhibition, 136 canvases out of 392. Much of this interesting and important body of painting is, naturally, familiar to us and it is interesting to note how satisfactorily it holds its own in this international environment. Still more interesting is it to observe the growth of a definitely "American" art—an art which, in many cases, seems quite underived from European sources.

Of the three American prize-winners only one, W. J. Glackens, in his frank imitation of Renoir, is definitely influenced by European painting, and, with all respect to a distinguished painter, not only the prize-winner but the entire set leaves me cold. Perhaps this is due to an instinctive distaste for a magenta color scheme and for wooliness of technique.

Edward Bruce's one canvas, *The Pear Tree*, which carried off the First Honorable Mention, is dignified and pleasant in color and as rigid as the Glackens are loose, while James Pollet, who won another Mention, shows work which, whatever else may be said of it,

is at least highly personal. There is always a feeling of light in this strong group, and in it there are many fine moments, but they somehow seem to need pulling together. Even in the large and effective *Autobiography*—the mentioned picture—I feel a lack of connection between the rather unattractive model, the handsomely painted vista of the adjoining rooms and the perturbed painter.

There are a host of other Americans who deserve extended notice. Special attention, however, must be given to Carl Schmitt, who has produced novel and original color-contrast and great charm of design in his three Madonnas; Preston Dickinson, whose *Old Street, Quebec*, is a most entertaining canvas, and Malcolm Parcell, whose group has a suave dignity that is very fine.

James Chapin pursues his Marvin saga with a handsome group of three members of the family disposed about a kitchen stove. There is some very fine painting in this and a quite extraordinary rendition of indoor light. *Ruby Green Singing* is a bit more poetic in character than is most of Chapin's work, while *The Pretzel Man*, with the forms and color of the pretzels repeated in the bodies of the crowd, is pure humor. Georgiana Klitgaard's *Japanesque Landscape with Fog* is most effective, as is Clarence Holbrook Carter's *Ezra Davenport* with its amazingly realistic still-life of red table-cloth, lace doily, egg-dish, lamp and bible: a real *tour de force* of craftsmanship. Daniel Garber's handsome set has in it no novelties but is highly representative of the work of this distinguished artist, and W. Elmer Schofield shows more feeling for design than do most of the moderns. Design in plenty is present in Ross Moffett's three telling

(Concluded on Page 232.)



# THE ANCIENT RUINS OF RHODESIA

By E. N. FALLAIZE

TO the ancient world, unexplored Africa was a country of mystery and marvel. This atmosphere of wonderland in which nothing was unexpected because everything was possible, to a great extent has vanished before modern transport, though African travel can still be far from prosaic. Yet at least one mystery remains—the ancient ruins of Rhodesia, of which the origin and purpose are still not known. Like the Maya civilization of Central America, these ruins seem to spring spontaneously from the soil with no certain reference to preceding conditions or sure evidence of relation with the outside world.

It was with this in view that the British Association for the Advancement of Science, in preparation for its visit to South Africa in 1929, asked Miss Gertrude Caton-Thompson to undertake systematic excavation at Great Zimbabwe and any other of the ruins in Rhodesia at which time and opportunity might allow before the date of the meeting of the Association in July. This is not the first occasion on which the Association has contributed to the investigation of the problem. When it first visited South Africa in 1905, it was preceded by Dr. David Randall-MacIver, who excavated at Great Zimbabwe and at six other sites. Although Dr. Randall-MacIver was an experienced archaeologist, trained in the school of Egypt, his conclusions did not commend themselves to all, especially local, archaeologists. Some exploration and still more controversy have followed. It will be Miss Caton-Thompson's endeavor to test and carry further Dr.



THE ACROPOLIS FROM THE TEMPLE.

Randall-MacIver's investigations. A certain piquancy is added to the situation by the entry into the field of a German expedition under Dr. Leo Frobenius. Miss Caton-Thompson will report to the British Association at the South African meeting, but the interest will be heightened if the two explorers stand side by side.

Great Zimbabwe itself is situated about fifteen miles from the township of Victoria in Southern Rhodesia. It is the best known and most important but not the only one of its kind. In fact, the name Zimbabwe is generic, being applied locally to all these ruins as a class. Of uncertain derivation, the name has been said to mean either a "head kraal" or "stone buildings". These ruins exist in numbers which have never yet been fully ascertained; but they have been estimated at over five hundred, and well over two hundred and fifty have been actually recorded. They lie scattered over the

## ART AND ARCHAEOLOGY

area which is roughly between the lower Zambesi and the Limpopo rivers, approximately covering part of Mashonaland and Matabeleland. They stretch over into Portuguese territory down to within seventy miles from the mouth of the Sabi, about sixty miles south of Sofala. Although their exact distribution has still to be plotted, the extension into Portuguese East Africa would look as if there were a line of communication stretching from the interior to an outlet to the sea. The line of forts along the lower river would point to the Sabi as the exit. Ruins have been reported north of the Zambesi, but they cluster most thickly in Mashonaland in close but not immediate proximity to gold workings, both ancient and modern.

These ancient ruins vary a great deal in their character. Four periods, or perhaps better classes, have been distinguished, ranging from the best or Great Zimbabwe type down to a class which has been described as exemplifying the efforts of local tribes to copy the Zimbabwe style of architecture. The latest classification suggests the possibility of two periods.

At Zimbabwe itself the area of the ruins has been estimated at between eighty and ninety thousand square yards, with the reservation that at one time it might have been larger. The ruins here fall into three groups. The Acropolis is situated on Zimbabwe Hill, a granite kopje, five hundred feet high with precipitous sides, the most abrupt facing the so-called Elliptical Temple. Access to the Acropolis is gained by a narrow winding stairway which in part lies between gigantic granite boulders. On the kopje are numerous labyrinthine structures with enormously thick walls of rectangular granite blocks, or bricks. These have been obtained from granite boulders which

scale off under atmospheric conditions and have been broken to a convenient and more or less uniform size. No mortar was used, and the walls are all built in regular courses with a batter or backward slope. On the most accessible side of the hill is a wall of massive structure, thirty feet high and surmounted by a series of small round towers three feet in diameter, alternating with monoliths. At the summit is a small flat space with huge boulders fifty feet high, huge monoliths and decorated pillars of soapstone. Below



GOING UP THE OLD WAY TO THE ACROPOLIS.

is a semi-circular space containing an altar covered with cement. Numerous openings and passages in the thick walls give access to the various chambers and court-like structures.

The Elliptical Temple which faces the Acropolis across the Valley of Ruins is, like that structure, a labyrinth of walls and passages, the method of building employed being the same. Its greatest length is 280 feet, and its highest wall thirty-five feet above the ground. The thickest of the walls is sixteen feet at the base. A remarkable feature of the Temple is the two round towers. The

## ART AND ARCHAEOLOGY

larger must originally have been thirty-five feet high, and it is seventeen feet in diameter at its base. Both towers are built solid and with so pronounced a curving batter as to justify the epithet conical. A long narrow passage leads from the entrance to what has been thought a sacred enclosure. In both the Acropolis and the Temple the walls are ornamented by a dentelle or chevron pattern. The Valley of the Ruins, which lies between the two, is a mass of remains which include traces of a number of elliptical buildings and an angular enclosure divided into chambers at different levels. This seems at one time to have been connected by wall with the Temple, and was provided with round towers and monoliths.

The importance of Great Zimbabwe is evident. It must have been the residence of a paramount chief of great power who ruled over a wide dominion. The so-called Elliptical Temple was probably not entirely and solely a building used for religious purposes. Perhaps it was in part the royal residence and in part only used for ceremonial. The latter purpose is indicated in a number of details, but most of all, perhaps, by the conical pillars in which so many explorers and writers have seen the evidence of phallic worship, comparing it with the baetyls or sacred pillars which were a feature of the religions of Syria and the Near East in early times. While phallic emblems, both naturalistic and conventional, are not uncommon among the objects found in Rhodesian ruins, the phallic character of these monuments is purely a matter of conjecture, and taken in conjunction with the general character of the ruins does not seem probable. It does not appear to have been pointed out that taking this structure as a

whole, and allowing for the differences due to material, it presents an analogy to the sacred royal enclosures of peoples of the Great Lakes area of East Africa described by the Rev. J. Roscoe.

The purpose of the Acropolis, which is practically impregnable, is obviously that of a last place of defence, while the remains in the Valley of Ruins may reasonably be conjectured to have been the dwelling place of the members of the paramount chief's court, the elliptical buildings of which remains are to be seen being the residences of his subsidiary chiefs and headmen.

Among the other sites which have been examined, the most important are those at Khami near Buluwayo, and Dhlo Dhlo near Shangaan, the remains in both cases consisting of hill-forts and dwelling-places, or "slave-pits", as the latter have sometimes been called. The hill-forts at Khami and Dhlo Dhlo, where the remains indicate a large population and an occupation of some length of time, are of special interest in that they have been classified as belonging to the second Zimbabwe period owing to a slightly different and inferior style and method of building. The Niekerk ruins, first described by Dr. Randall-MacIver, are of special interest, as they cover what is one of the largest archaeological sites in the world, an area of something like fifty square miles, the remains here consisting for the most part of enclosures roughly circular, on a hill surrounding a structure which was either a place of refuge or a dwelling-place. These structures, to which the name "slave-pits" has been given, but which more properly seem to be pit dwelling-places, are especially interesting. They are built on the side of hills—just where the South African native still builds his hut when conditions allow. A solid struc-

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ture of granite slabs is erected out from the hillside in such a way that the sides increase in depth as the slope falls while the top forms a level platform. On this there are signs that one or more superstructures have been erected. Within the main structure a very narrow passageway leads down into a chamber which seems to have been the main dwelling-place—a more probable purpose than the alternative use suggested, that it was a place of confinement for slaves. Nor is it probable that it was a grain-store, though this is a purpose to which the natives sometimes put it nowadays.

Taking the ruins as a whole, it would look as if an object of their builders had been to resist the onslaughts of an attacking body coming from the north. The northern ruins are more strongly fortified than the southern. The latter have rather the appearances of being the dwelling-places of a population which lived in more peaceful conditions.

From what precedes it will be apparent that Rhodesian ruins present a problem of a very remarkable interest. It lies, of course, in the question of the origin and date of stone buildings in such numbers and of such a character in a country in which the use of stone for structural purpose is otherwise unknown. When we look for indications of an outside origin, nothing of any certain character is forthcoming.

These buildings have been known since the time of the Portuguese in the XVIth century, when the chroniclers made reference to them. Their information obviously was not first-hand; it was probably derived from Arab traders. References are frequent to the kingdom of Monomotapa, in the customary grandiloquent phrasing of the time, a great "emperor" of the interior. In all probability Monomotapa is a

garbled version of the title of a line of paramount chiefs of unusual power, who held sway over a wide area. It is suggested that their people were the ancestors of the present Makalanga. Though Jesuit missions spread over the country, it is doubtful if at this early date the Portuguese settlers themselves penetrated to the interior. Their intercourse was probably carried on through the intermediacy of Arab traders. In the XVIIIth and early XIXth centuries little attention was



JUST INSIDE THE OUTER WALL OF THE TEMPLE.

paid to these ruins. When they again came into notice, and especially after the expedition of Mr. Theodore Bent in 1891, undertaken at the instance of the Royal Geographical Society and the British Association, they were attributed to the Phoenicians or were variously identified with Sheba, Ophir and Punt. Mr. Theodore Bent relied to a great extent on the character of the antiquities found in the ruins, especially a soapstone ingot-mould, which he compared with an ingot-mould said to be Phoenician found at Falmouth, and certain soapstone staves surmounted



## ART AND ARCHAEOLOGY

by carvings of birds which he considered identical with the birds sacred to Astarte. The latter, however, do not really seem to have parallels in any known culture; nor is the ingot-mould sufficiently distinctive to be conclusive.

It has been compared with the ancient ingots of the Katanga and Northern Rhodesia. Further, there does not seem to be any evidence that



IN THE TEMPLE.

the ancients had any knowledge of the African coast so far south. The farthest point mentioned in ancient geographical treatises is eight degrees south of the equator. We know very little of Arab activities in this direction before the tenth century, but those who have favored Arab influences would claim much higher antiquity for the ruins than this. Although it has been admitted that the ruins are situated in agricultural country, they are in proximity to gold which was worked before any time of which we have record. The ruins themselves furnish abundant evidence of a knowledge of gold-working in the form of objects of gold and

crucibles. It is therefore generally accepted that the ruins are connected with gold-mining. It has been estimated that over seventy millions sterling have been taken from these ancient workings—a conservative figure places the amount at fourteen or fifteen millions sterling—yet at no period in the world's history is there any record or evidence to suggest an influx of gold to this amount. Yet, again, a vast quantity of copper has been taken out of Northern Rhodesia and the Katanga at some, possibly, remote date. The Rhodesian ruins may be connected with this industry. What became of the product?

When Dr. Randall-MacIver entered upon his investigations in 1905, the theory of an origin of considerable antiquity, possibly Phoenician, probably Semitic, held the field. As the result of his investigations on seven sites, he came to the conclusion that the remains were virtually homogeneous in culture and showed no succession of periods such as was claimed. While excavating in accordance with the strict canons of archaeological investigation, he discovered both at Dhlo Dhlo and at Great Zimbabwe fragments of Nankin china at the base of undisturbed homogeneous deposits. This demonstrated to his satisfaction that the ruins were mediaeval and at the earliest could not be earlier than the XIth century, while probably they antedated the Portuguese by only a little. Further, as regards their origin, he was convinced that they were Kaffir. This view was based on the general character of the buildings, while many of the remains he considered to be foundations for superstructure of wattle and daub in the form of the Kaffir hut. The pottery, articles



## ART AND ARCHAEOLOGY

of copper, iron, and other remains which he found, he considered to be essentially native.

Dr. Randall-MacIver's conclusions aroused fierce opposition, and controversy is still acute. Subsequent examination has not, however, brought forward any conclusive evidence to refute his view as to the date. Indeed, the most recent investigations tend to confirm it. Mr. Miles Burkitt found a Kaffir floor in the Acropolis containing

Bantu pottery, which clearly had been in existence before the erection of the wall at that particular spot.

There would seem little possibility of proving a high antiquity for these ruins. The question of how and why they were erected remains.

I have to thank Mr. Miles Burkitt for the illustrations which are from photographs taken by him on his recent archaeological tour in South Africa.

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## THE WINDOW

*(Concluded from Page 209.)*

for copying has never been a real or lasting art, though a primrose path, to be sure, for indolence.

In this country, after the Civil War, we were sunk deep in the picture-window wave and the opalescent mania, from which we were rescued by the master mind of William Willet, who more than any other artist was responsible for making the mediaeval style of window and antique glass popular in this country, and turning the people to the "glory that is glass", in which he is said by Selwyn Image to have excelled any other artist, past or present. But alas, stained glass has been as often the prey of commercialism as architecture, of which it is a component part, and just as a great renaissance has swept over the world in this branch of art, we discover ourselves plunged deep into an idiot fringe craze, as Eugene Savage terms it, which has engulfed not only our an-

nual exhibitions, but is filling our noblest structures with copies of ancient windows, loaded with paint by way of obscuring at once their origin and their lack of artistry. As a certain vestry wrote a gentleman who recently filled the chancel of their beautiful church with a heavily painted mass of red and blue, supposed to portray the life of the greatest of the Apostles: "Your angels in the traceries make excellent devils, it is true, but we have not yet been able to discover St. Paul in any of the lancets."

Only with our feet on the fundamentals of the media with which we work, putting behind our backs all hypocrisies and shams, and pressing forward with honesty and reverence, will we be able to leave to posterity windows capable of transmitting uninterrupted rays of the light which is the life of man. Remember Lot's wife!



THE CHEVET AND APSE OF NOTRE DAME D'AMIENS.

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GENERAL VIEW OF THE RUINS OF THE RAMASSEUM IN THE PLAIN OF THEBES, EGYPT.

## THE ROMANCE OF ARCHITECTURE

*By* WILLIAM HOWE DOWNES

THE cave dweller did not need an architect. All he had to do was to find the cave, take possession of the premises, and move in, this last process being comparatively painless, and certainly far more easily managed than it became after clothes and furniture were invented. The architect is a modern luxury, one of those luxuries which in time become necessities. The simple-minded peasant or pioneer can dispense with his services, regarding him as an unnecessary and expensive gentleman-carpenter, a sort of fifth wheel to the coach. The log cabin of our hardy ancestors was erected without the aid of ground plan, blue print, T-square and specifications; yet it had a style of its own which would have met with the approval of Mr. Ruskin, for it was honest, simple, and wholly free from the curse of classicism.

Many primitive homes happen to be artistic, though built without any such conscious purpose. The modern architect is nothing more than the evolution from a builder—a builder who plans his building before beginning its construction. He has a vision, a dream, a picture of the completed thing; it exists as a mental edifice before it comes into being as a reality; then begins the complicated process of realization, advancing stage after stage to the con-

summation. A fascinating vocation, giving the practitioner the thrilling sensation of creating something of importance—a “long-felt want”. Invention, new ideas, embellishments, the multiple additions demanded by an age of complicated needs and notions—there is no end to the possibilities of modern architecture, which combines art with science, poetry with prose, and romance with reality.

According to Viollet-le-Duc, the art of building includes two elements, theory and practice. The former comprehends the fine-art side proper, the body of general rules inspired by taste and based on tradition, and the science, which admits of demonstration by means of invariable and absolute formulae. Practice is the application of theory to particular needs; it is practice which causes the art and the science to conform to the nature of materials, to climate, to the customs of a period, or to the necessities of the occasion.

In this concise and admirable definition, the attractions of the profession of architecture are made to stand out in a clear light. The architect is singularly fortunate in that his art is so strictly conjoined with a universal necessity. Men may make shift to get along without music, poetry, painting or sculpture, but no one can well live



THE ALBRIGHT ART GALLERY, BUFFALO, N. Y.

without house, office, store or mill, not to speak of the church, the theatre, the town hall, and other public buildings. Aside from the familiar facts of demand and supply which render the position of the architect so much more secure in an economic sense than that of the poet, painter, sculptor and musician, the happiest circumstance of his profession is its ideal unity of utility and artistry. The architect may be a complete artist, an artist to his finger-tips, yet at the same time he cannot, if he would, divorce his art from his client's daily and hourly need. He has the satisfaction of knowing that his vocation is supremely useful, none more so;

that in the nature of things it must always be useful, and that it affords the fullest possible scope for his artistic sense. In other words, its demands are as great as its allurements; knowledge, logic, sound common sense, as well as taste, sensibility and imagination, are needed. The master of the art of building should be an unusually complete man in respect of intellect and feeling.

It is to be noticed that the general rules mentioned by Viollet-le-Duc, though inspired by taste, are based on tradition. Architecture is indeed so rich in its traditions that it seems almost futile for the designer to attempt

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## ART AND ARCHAEOLOGY

innovations or improvements. Everything, we say, in looking back, has been thought of ages ago; everything that is worth while has been done; and one would be at times tempted to conclude there is no room left for originality or invention, were there not the reassuring thought that there are no limits to the possible achievements of the human spirit. Even as in the past great and noble things grew out of human needs and the logic of physical laws, just so wonderful and impressive monuments remain to be erected for the purposes of the future. There lies the inextinguishable romance of architecture.

So far as one is able to foresee the lines of its development, as they have begun to take shape in the American city, grandiose scale and unparalleled altitude are to be among its most dis-

tinctive external characteristics. The sky-scraper, born out of stern necessity in the island of Manhattan, possesses something of the stark impressiveness of the massive Egyptian pyramids and temples. Its mere bulk and height are awesome. It is an absolutely new type, calling for a new kind of design, as it does for a new method of construction. There is, no doubt, something brutal and domineering about it. It is the product of a commercial age, and frankly looks the part. But we are beginning to perceive that there is romance in business, in finance, in industry, even in machinery. Manhattan, in short, with all its sordidness, is frightfully beautiful.

All architects are by the nature of their calling opportunists. They must meet existing conditions; they must



*Courtesy of American Red Cross.*

A VIEW OF THE ROMAN TRIUMPHAL ARCH AMID THE RUINS OF TIMAD.



## ART AND ARCHAEOLOGY



*By courtesy of the Metropolitan Life Insurance Company.*  
INDICATING A POSSIBLE FUTURE TREND IN BUSINESS  
ARCHITECTURE.

grapple with hard problems; they must satisfy their clients. Our architects have been trying in this spirit, and are still trying, to make the best of a

peculiarly tough problem, the skyscraper, and it is only fair to say they are meeting with measurable success. The pyramidal contours now exacted by the laws of New York, which have the great advantage of obviating one of the most serious practical objections to the high building, would appear to be an important step toward a solution of the problem of design. If this works out well in the direction of artistic aspect and effect, it will furnish an interesting example of how closely social and economic questions are allied with aesthetics. For, as the high building becomes less selfish and less inconsiderate of the rights of its neighbors (the right to a fair share of sunlight, for one thing), it will become more beautiful; and thus we shall have a new illustration of the old law that the highest artistic merits are in some sort identical with the moral virtues that go to the making of character. At the core of good art are honesty and fitness. A fine building is the embodiment, in steel, stone, brick, cement or wood, of the most perfect sincerity and integrity. While we do not subscribe to all of Mr. Ruskin's tenets nowadays, partly because we do not relish his dogmatic manner, when it comes down to the bed-rock of fundamental principles he is generally sound; and he was right when he insisted that a building should "act well and do the things it was intended to do in the best way".

The function of the architect might be aptly symbolized by a fine tower or spire. At the base, all unseen, but essential, is the solid foundation, its indestructible stones typifying the scientific, technical, engineering part of the work. Rising proudly upon this foundation, the great edifice towers aloft, the apex seemingly piercing the clouds, a fit symbol of the aspiration of its

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## ART AND ARCHAEOLOGY

maker and the ever-recurring evidence of the instinct to establish monuments and landmarks. The significance, be it religious, patriotic, historical, or simply utilitarian, of a mighty tower, endures through many generations, with the cumulative effect of age. As a memorial it appeals to the imagination, and lifts the mind above the earth by its associations with heroism, piety or achievement. It may be stern and simple, relying for its effect upon mass, height, proportion; or ornate, flowery, full of grace and buoyancy; or, again, its grandeur may in some degree depend



THE MAYA TEMPLE AT UAXACTUN, GUATEMALA, PERHAPS THE MOST BEAUTIFUL EXAMPLE OF ANCIENT AMERICAN ARCHITECTURE THAT HAS COME DOWN TO US.



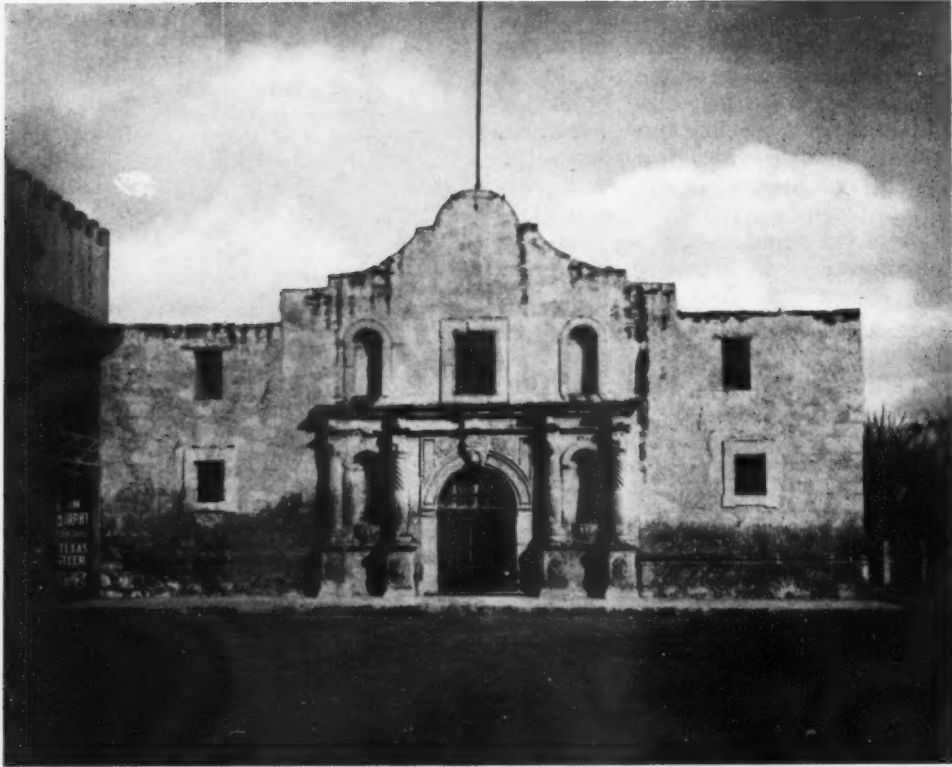
AN OLD BRETON HOUSE.

upon its happy location and harmony with surroundings. Whatever its special message, the tower gives an impression of permanency and idealism, though perhaps in some instances this may be more fancied than real. It has the distinction of standing for an idea, as its chief if not exclusive reason for being; and those specimens which combine utility with purely memorial ends may be considered the most perfect symbols of the architect's calling. For in some way that is hard to explain, usefulness enhances beauty, while beauty certainly dignifies and glorifies usefulness.

Usefulness, we say. But what is useful? Shall man live by bread alone? What is the force that removes mountains, builds the Parthenon, waters the desert, spans the ocean, annihilates space and time? Let us remember that the outstanding achievements of mankind are the direct results of sentiment and imagination. The monuments of yesterday were all reared by faith and enthusiasm; and the wonders of invention, the telephone, the radio, the motor car, the airplane, every great discovery and achievement, is the triumph of mind over matter, the offspring of courage, loyalty, love of truth. Are not



PYLON (LEFT) OF THE TEMPLE OF ISIS AT PHILOE, EGYPT. THE UNFINISHED, DETACHED COLUMNAR STRUCTURE IN THE CENTER HAS LONG BEEN KNOWN AS "PHARAOH'S BED". THE CONSTRUCTION OF THE GREAT DAM AT ASWAN HAS MADE THE NILE A GREAT LAKE HERE AND IS SLOWLY DESTROYING THESE EXQUISITE TEMPLES.



THE ALAMO, PROBABLY BEGUN IN 1744, AS IT LOOKS TODAY.

these traits as useful as food and shelter and safety?

If many persons do not readily associate the idea of emotion with the conceptions of the architect, it is because the obvious utility of a building obscures the feeling of the designer; but in the grandeur and nobility of the masterpieces there are elements of exaltation and passion that are cognate with those of a great epic poem, a great statue, or a great symphony. In the sensitive observer they arouse much the same emotional response, though it must be allowed that the capacity for full appreciation is immeasurably enlarged by special knowledge. Nothing so well exemplifies the value of imagi-

nation and feeling in architecture as the mediaeval cathedrals. In comparison with them the Greek temples appear cold and impersonal. On the one hand we have objective order, symmetry and perfection; on the other, energetic and picturesque manifestations of individual fancy. Rheims and Amiens, Chartres and Rouen, Canterbury and York, Durham and Ely—each unit stands for a distinct type of character, full of pungent idiosyncrasies. In Athens it is the school that is dominant; in France, the man. It is no wonder that the world is divided in its allegiance.

In each of the Gothic cathedrals we find excellences and defects; they serve

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## ART AND ARCHAEOLOGY

alike to endear it to the observer, much as do the virtues and faults of an old friend. In each, stirring pages of history are written in stone. One is notable for massiveness; another, for airy grace and lightness; here, the visitor is awed by majestic proportions; there, he is charmed by the rich and delicate character of details. From certain fanes he will carry away indelible memories of grandeur, while others will leave only impressions of an elaborate architectural propriety. Site and surroundings too have a wide diversity. Many of the cathedrals are set in the midst of crowded cities and closely neighbored by mean buildings. Others are seen in a congenial setting of trees and green lawns. One comes to have special favorites, of course, and these are not often the most perfect monuments from an artistic point of view. The authorities will tell you

that the west fronts of Wells, Lincoln, and Peterboro are mere masks, structural paradoxes, but the joke of it is that this violation of the rules has been carried out with so much brilliancy that it has quite a thrilling effect. Triumphant sin, as Mrs. Van Rensselaer happily calls it. Few are willing to approve of these solecisms, but still fewer are they who can face them without being agreeably impressed. *C'est magnifique, mais ce n'est pas la guerre.*

Although good examples of architecture are far from being appreciated as generally as they should be, and bad examples are too widely tolerated through ignorance and indifference, the possibilities in this field are great and the conditions today in America are hopeful, for evidences multiply that on the whole more and more people are beginning to aspire to better buildings in which to live and do business. A



THE OLD MARTIN BAUM HOUSE, CINCINNATI. RESIDENCE OF CHARLES P. TAFT, ESQ.



## ART AND ARCHAEOLOGY

more intelligent criticism of new buildings in city and country would be a means of extending the interest in the subject. A large, important edifice is a more significant subject for a thoughtful critique than a whole gallery full of new pictures, yet how few of our art critics ever think of devoting their space and thought to it, or are qualified to write a competent criticism of it. It is presumably to remain a conspicuous monument, visible to every person who passes, for many years, whereas the picture in the gallery may never be seen again by the public. The art critic ought to widen his field by a systematic study of architecture, to the end that he should fit himself to take up the task of estimating and judging new buildings with as much discrimination and intelligence as are now brought into play in writing of paintings, sculpture, music and the drama. All the arts being related, it is reasonable to suppose that the more one knows about any one of them the easier it is to acquire familiarity with the others. What makes the rule subject to exception is the fact that the conditions of work are so radically different, the technique of each art making demands

upon altogether different kinds of training, skill and knowledge. On the other hand, it is in the realm of emotion that the arts have the most complete affinity with each other.

Architecture and music, the most useful and the most useless of the arts, measured by conventional standards, have much in common, yet there is very little sense in the figure of speech "frozen music". Music is the most fluid and mobile of the arts, and one cannot visualize it as cold and motionless. Thus the simile does not ring true. The movement of a great architectural work is as continuous and unbroken as that of a great musical composition; its onward sweep from a definite beginning to a definite ending is marked by rhythms as pleasing to the sense as those of a symphony. Its sensuous appeal is not so manifest; it is too tangible and real. Music is at home in the upper regions of feeling, mood, reverie, and mystical exaltation. Yet in the final analysis how many striking analogies are discoverable. Constructive method is as necessary in the one art as in the other; there is no art without method.

## THE CARNEGIE INTERNATIONAL EXHIBITION

*(Concluded from Page 217.)*

canvases, while Ernest L. Blumenschein, in his three examples, has achieved a rich glory of color which is most remarkable. Eugene Speicher shows a strongly painted nude, two or three characteristic portraits and, strange to say, a landscape, while individual works well worthy of attention are contributed by Davenport Griffen and Beatrice Levy. Sheer "modernism" of the more or less in-

ebriated variety may be found by those who crave that sort of thing, in the works of Max Weber, Paul Burlin and Waldo Pierce.

All in all the Americans have demonstrated the existence in this country of an art which is in no respect secondary to the contemporary art of Europe. Our thanks are due to the Carnegie Institute for making possible this measure of comparison.

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EXTERIOR VIEW OF THE GERMANIC MUSEUM.

## THE GERMANIC MUSEUM OF HARVARD UNIVERSITY

By KUNO FRANCKE

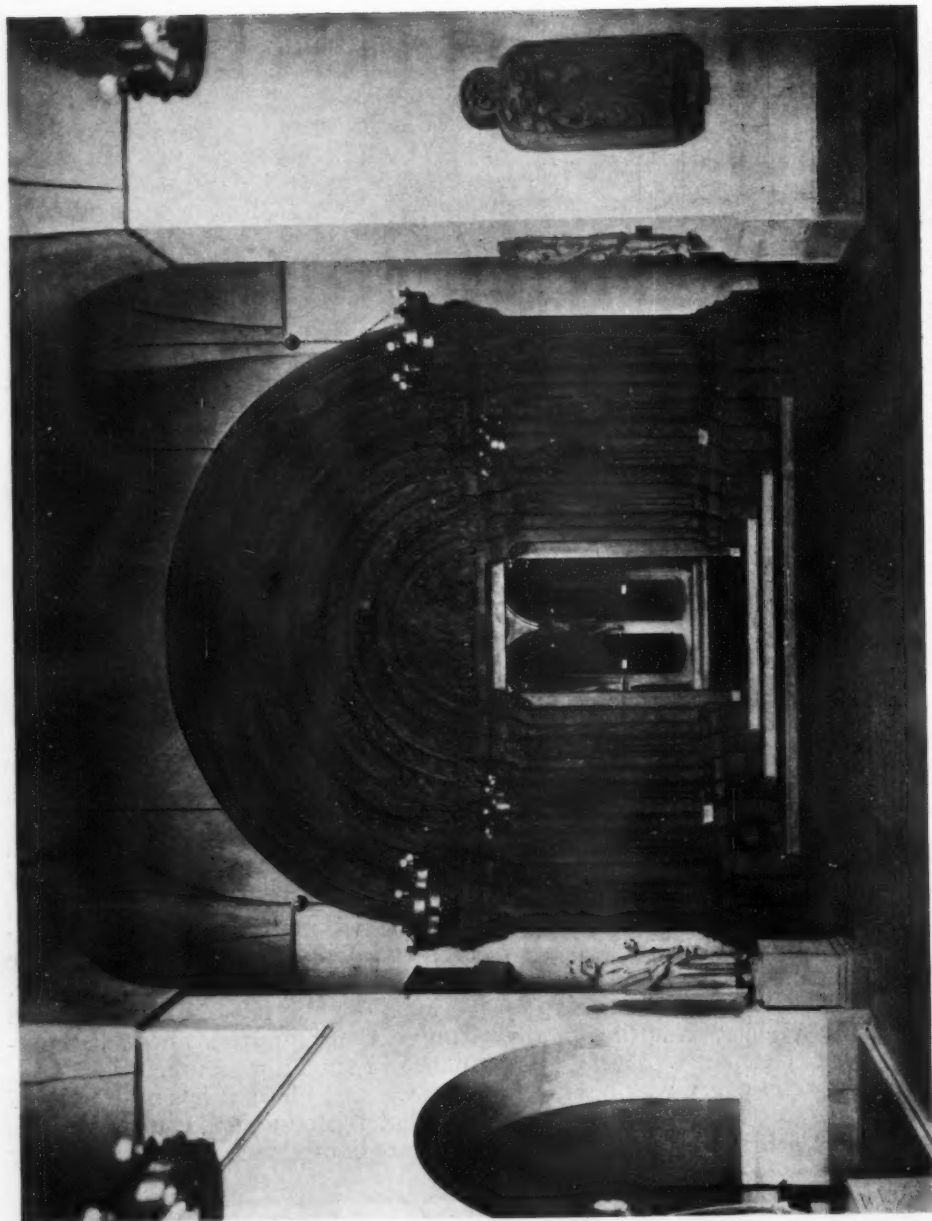
THROUGH the generosity of a number of American citizens interested in German affairs there has recently been endowed at the Germanic Museum of Harvard University a professorship of the history of German art and culture. As yet, no appointment to this chair has been made. But there is no question that within the next few months some decision will be reached resulting in the coming from Germany of a distinguished scholar in every way equipped for this important task.\* Under these circumstances a brief statement of the

considerations which have led to the establishment of this museum seems particularly opportune just now.

The main purpose of the museum may be said to consist in presenting, by full-size reproductions of outstanding works of German sculpture and painting, a striking historical survey of the outward aspect of German culture. Serious doubts have been expressed from various quarters about the usefulness of such a museum.

In the first place, it has been pointed out that reproductions can never take the place of originals. This is obviously

\* Dr. Francke has himself, since this article was written, been appointed to the post. His title remains unchanged, except for the two words *cmeritus* and *honorary*, and is the one he has borne with dignity for the past twenty-five years or more: "Professor of the History of German Culture, Emeritus, and Honorary Curator of the Germanic Museum of Harvard University". The *Boston Transcript*, commenting upon the Kuno Francke Professorship in a leading editorial, said on Oct. 26 that its establishment is "more than gratifying" and that Dr. Francke by it has been given well-merited recognition and honor.



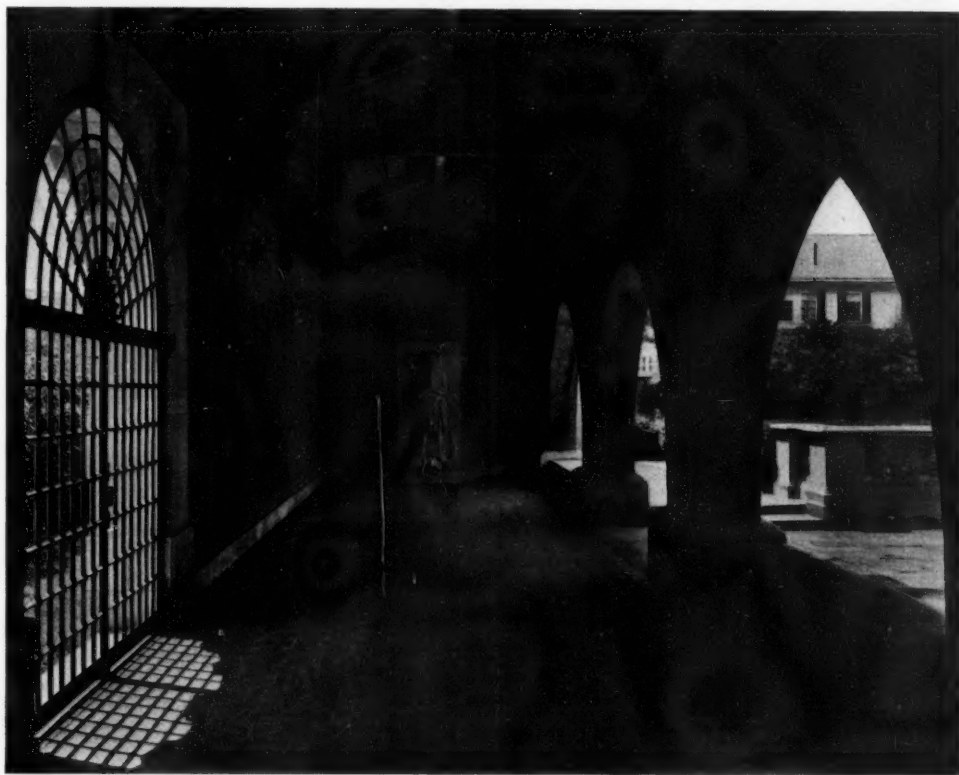
HISTORICAL ARRANGEMENT OF THE EXHIBITS IS MADE PRACTICAL BY THE DESIGN OF THE BUILDING ITSELF.

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## ART AND ARCHAEOLOGY

true. And yet the art of reproduction has reached today, especially in Germany, France, and Belgium, such a degree of exactness that as an introduction to the study of originals, both tinted plaster-casts of sculptures and mechanical reproductions of paintings have acquired a significance of high and trustworthy authority. No one can come away from the hall of casts in the Paris Trocadéro without a new sense of the greatness of French sculpture of the XIIth century. The collection of copies from Jan van Eyck, Memling, and other Flemish masters, done under the guidance of M. Pol de Mont of the Antwerp Museum, produces an

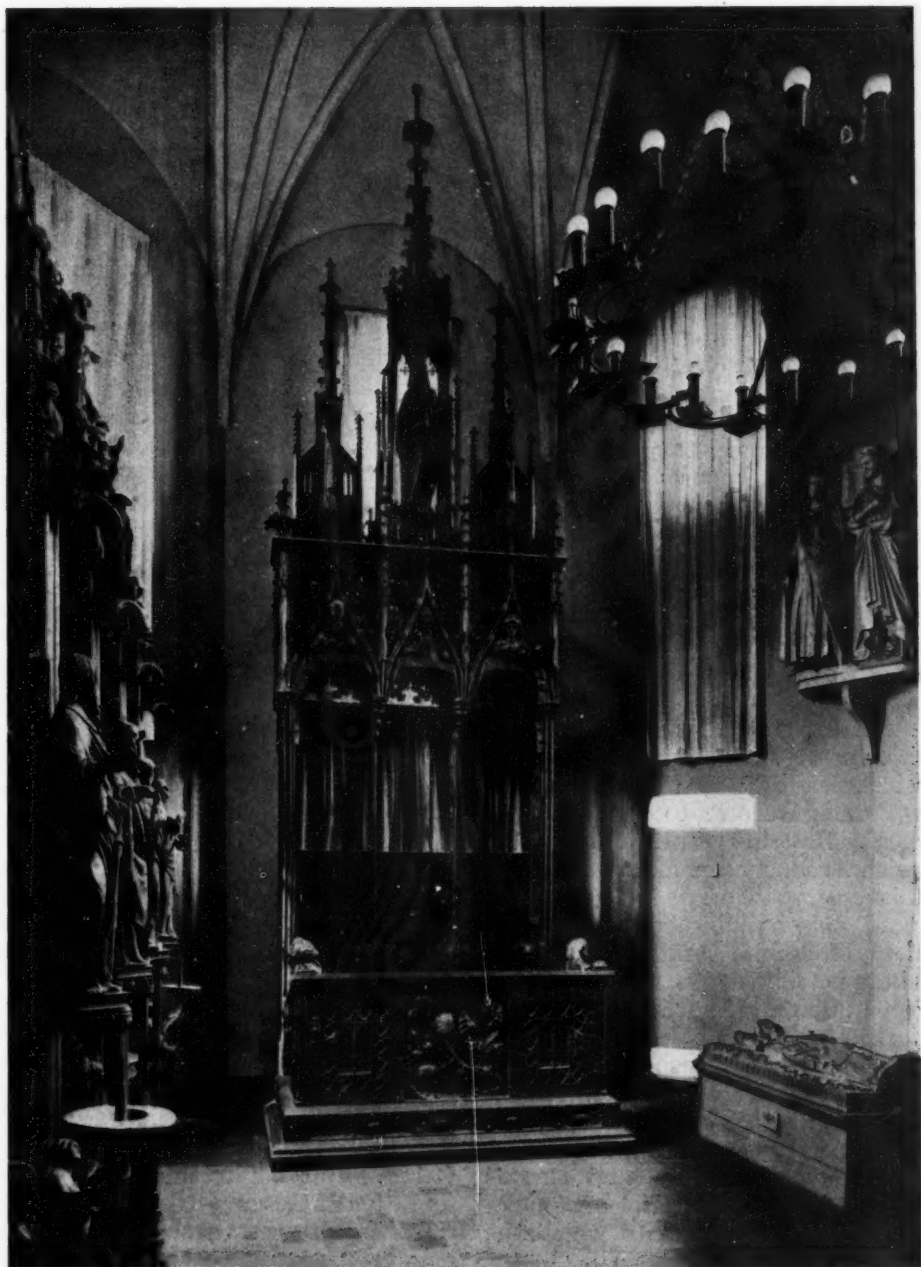
effect of astoundingly close approach to color-scheme, texture, and even cracks of the paintings themselves. The remarkable display of electrotpe reproductions of German gold- and silverware from the XIIth to the XVIIIth centuries, brought together by Dr. Julius Lessing of the Berlin Museum of Arts and Crafts for our own museum, rivals the originals in impressiveness, lustre, and precision of lines. It is therefore safe to say that reproductions of both sculpture and painting following the methods employed in such instances as these cannot fail to be valuable auxiliaries in the historical study of art, especially if used in con-



THE CLOISTERS ARE RICH IN ATMOSPHERE.



CASTS AND REPRODUCTIONS, PROPERLY ARRANGED AND LIGHTED, FIRE THE VISITOR WITH ADMIRATION FOR THE GENIUS OF THE CENTURIES WHICH PRODUCED THE ORIGINALS.



THE "DOGMA OF THE ARTISTIC INFERIORITY OF GERMAN SCULPTURE AND PAINTING  
HAS NARROWED THE VISION AND FORTIFIED PREJUDICE."



## ART AND ARCHAEOLOGY

nection with lantern-slides from the originals.

In our own case, it is a matter of satisfaction that some of the foremost German art scholars have evinced the liveliest interest in this undertaking. Such men as Wilhelm von Bode and Paul Clemen have privately and publicly stated that they envied Harvard University the possession of so representative a collection of the foremost works of mediaeval and Renaissance sculpture in accurately tinted casts. And the educational value of these casts could not have been more strikingly demonstrated than by the fact that no less a scholar than Adolph Goldschmidt a few years ago made them the basis of a minute analysis and interpretation of mediaeval forms of art in a seminar given by him throughout a semester in the Germanic Museum.

Another difficulty inherent in such a museum as this concerns the proper historical arrangement of the exhibits. This difficulty, I believe, has been met most successfully by the building design, which we owe to the genius of Professor Bestelmeyer, President of the Munich Academy of Fine Arts. Without in any way losing its artistic coherence, this building contains such a variety of architectural units that it has been possible to give to nearly every object exhibited, if not its own specific historical setting, at least a general background which transports the visitor into the historical atmosphere which surrounded the original. Thus, for instance, the Romanesque hall with its vaulted nave, side aisle, and alcoves suggests at least the interior of some of the pre-Gothic churches to which the individual exhibits belong. The Golden Gate of Freiberg in Saxony forms the opening into the transept with its

sculptures of the transition period from the Romanesque to the Gothic manner. The Naumburg rood screen separates the transept from the Gothic chapel with its St. Sebald tomb from Nurnberg and its bishop's seat from Ulm cathedral; and so forth. So far as I have been able to observe, this feature of our museum is what impresses visitors more than anything else and leaves them with a sense of awe and admiration for the ages which produced such monuments. I am inclined to think that the arousing of such feelings in American students is in itself a sufficient justification for the existence of such a museum.

Finally, a few words about an objection which is perhaps uppermost in the minds of American art critics. The German genius, it is generally assumed, has found its finest artistic expression, not in sculpture or painting, but in music and poetry. Probably, this is true. But like all fixed dogmas, this dogma of the artistic inferiority of German sculpture and painting has narrowed the vision and fortified prejudice. It is time to enlarge the aesthetic horizon, to widen human sympathies. It is time—not to glorify German plastic and pictorial art—but to understand it; to understand it as an integral part of the whole of German national culture.

The Romantic Movement, for instance: who would deny that its greatest German achievements are to be found in such creations as Goethe's *Faust*, or the *Ninth Symphony*, in the lyrics of Uhland or Eichendorff or Heine? But not to include in a presentation of German Romanticism such religious dreamers as the Nazarene painters; such revellers in innocence and childhood and meadow and forest as Ludwig Richter or Hans Thoma; such



MUCH OF THE MUSEUM'S USEFULNESS WILL LIE IN ITS ABILITY TO MAKE THE STUDENT UNDERSTAND GERMAN PLASTIC AND PICTORIAL ART AS AN INTEGRAL PART OF THE NATIONAL CULTURE.

fantastic mediaevalists as Moritz von Schwind; such lovers of the bizarre as Spitzweg, would be to give a very fragmentary view of the hold which Romantic conceptions exercised upon German popular imagination throughout the XIXth century. The bringing together of as complete a collection as possible of German Romantic painting, even if only in lantern slides and books,

appears therefore as an urgent task of a museum meant to focus all the diversified rays of the higher national life.

In such an integration of the fine arts with all the other expressions of the national instinct the professor of the history of German art and culture to whose coming we are looking forward, will, I believe, find his most fruitful mission.



FIRST AIR VIEW OF THE RUINS OF TULUM. LARGEST AND BEST PRESERVED OF THE KNOWN GROUPS ALONG THE EAST COAST OF YUCATAN.

## NOTES AND COMMENTS

### CARNEGIE INSTITUTION MAKES AIR SURVEYS OF PUEBLO AND MAYA REGIONS

The activity of the Carnegie Institution of Washington in the archaeological field is too well known, as a result of its remarkable work in Yucatan, to need any explanation. But now that the airplane has been recognized as a vital adjunct of exploration, the Carnegie Institution has been able to avail itself not only of this latest development of science, but of the services of the most distinguished living airman, Colonel Charles A. Lindbergh.

Early in October, after conferences between President Merriam, several of the scientific staff of the Institution, and Colonel Lindbergh, the latter undertook a series of aerial reconnaissances in the Pueblo region of Arizona and New Mexico, and the Maya area in Yucatan. The photographs reproduced on this and other pages in this issue summarize pictorially the need for exactly this sort of preliminary exploration, impossible, of course, on the ground except at expenditures of energy and money so great as to be prohibitive.

In a bulletin just prepared for publication, the Carnegie Institution briefs the results of Colonel Lindbergh's work on this experimental series of flights over both fields. The limits of space forbid giving it entire, but the following paragraphs present the essential features

"The Southwest (meaning the area covered by the modern states of Utah, Colorado, Arizona, New Mexico, parts of Southern California, Sonora, and Chihuahua) is archaeologically an important field because it is one of the very few regions in the whole world where the effect of the use of a cereal on the rise of a people can be

traced in detail. And this effect is of outstanding historical interest because all civilization is founded upon agriculture, upon cereals: in Egypt, wheat; in China and the East, rice; in America, corn.

"In a nomadic, hunting life, it requires a very large area to support a single family group, and constant movement is necessary. Under such conditions the person of genius has little chance of influencing other minds and of passing on his ideas. But when existence is assured through the growing and tending of crops, group life and group development are possible.

"Just where and when corn was brought under cultivation is unknown, but a wild, heavy-seeded grass found in the highlands of Central America is thought to be its ancestor. The first culture based on corn was crude, but apparently it laid the foundation for all subsequent native development in America.

"The budding civilization evidently developed slowly in small areas, then suddenly spread. In the Maya region of Central America it grew into an extremely vivid and important civilization. In our own Southwest it was taken up and developed, by the people who lived there, into what is known as the Pueblo civilization.

"The Southwest is essentially arid. It is a country of high plateaus, little rainfall, not much game, and scanty forests. The most important part of the region, archaeologically speaking, is just where the four states, Arizona, New Mexico, Utah, and Colorado, come together. In this area are found literally thousands of ruins. For the most part these lie in rough, broken country of which Canyons del Muerto and de Chelly, among the most extraordinary of desert gorges, are typical.

## ART AND ARCHAEOLOGY

"It is amid such surroundings that the great pueblos and cliff-houses are found. They were built during the first thousand years of the Christian era, but until very recently little was known as to the origin of the civilization that led to their construction. Investigators, however, have now discovered that in the great wind-hollowed caves, characteristic of the region, there lie, under the foundations of the cliff-houses, remains of still more ancient people, remains so excellently preserved that they permit full reconstruction of the manner of life of the ancestors of the Cliff-dwellers.

"Through work already done by various institutions the most important stages through which these peoples passed on their way from nomadism to a settled life are known. The Southwest, therefore, is extremely important archaeologically. Although much has been accomplished, nevertheless, as Colonel Lindbergh's pictures indicate, the region contains riches yet untouched."

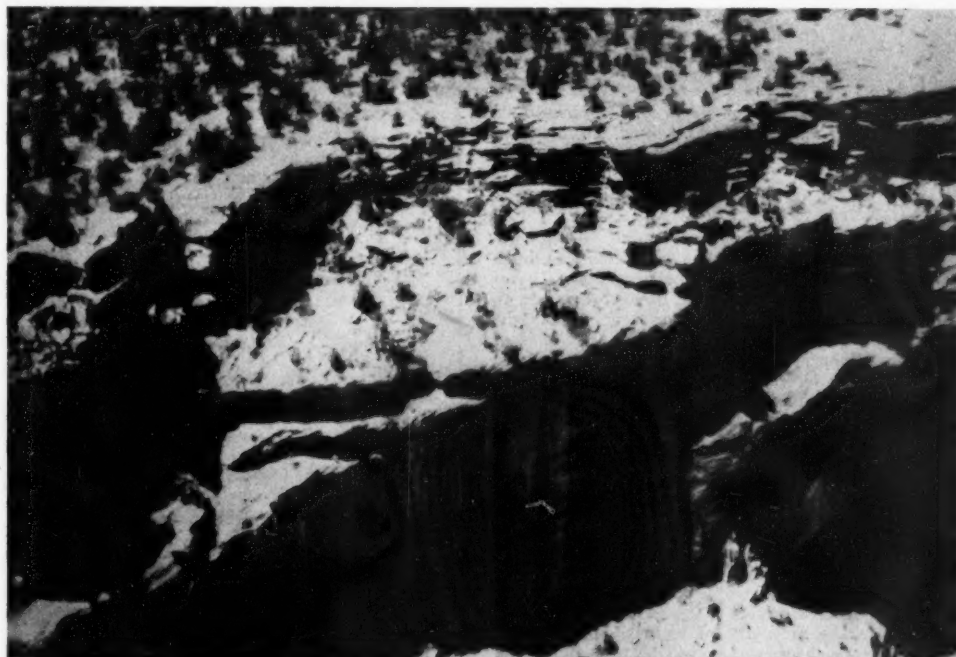
Of the Maya survey, conducted by Col. Lindbergh, Mr. O. G. Ricketson and Dr. A. V. Kidder, the Bulletin says in part: "Archaeologists have pieced together a fairly consistent outline of this history but of the Maya country as a whole, of the 'lay,' so to speak, of the land, we have had, until Colonel Lindbergh's flights, only the scantiest knowledge.

"From Tikal to Uaxactun is a very long day's journey by mule-train, a journey which is made possible only after the trail has been cleared. The Sikorsky did it in exactly six minutes! Ricketson's clearing and



camp, and the strange, squat, grotesquely sculptured pyramid which he has laid bare were clearly visible, and were photographed as Lindbergh wheeled close above the tree-tops.

"The greatest thrills of our five days' flying came, of course, with the finding of groups of Maya ruins indicating the presence of ancient cities. Although we believe it probable that four of these are new to archaeologists and that possibly two others also have never been visited, nevertheless, we cannot be quite certain until all existing maps and the literature of exploration have been carefully checked, and until ground parties have examined each.



CLIFF HOUSES IN THE CAVES UNDER THE RIM ROCK OF CANYON DE CHELLY. COLONEL AND MRS. LINDBERGH LANDED ON THE CLIFF ABOVE AND VISITED THE CAVES, PROBABLY NEVER BEFORE VISITED BY WHITE PEOPLE AS THEY CANNOT BE SEEN OR REACHED FROM BELOW.





(ABOVE.) CHICHEN ITZA FROM THE AIR, SHOWING AT REAR, LEFT TO RIGHT, THE BALL COURT, EL CASTILLO AND THE TEMPLE OF THE WARRIORS. IN THE FOREGROUND IS THE CARACOL, THOUGHT TO HAVE BEEN USED FOR ASTRONOMICAL PURPOSES.

"However, the purpose of the expedition was much more than the mere discovery of ancient sites. It was planned and carried out as a test, a reconnaissance, to gauge the value of the aeroplane for survey and observation. We proved to our satisfaction that it is of unique usefulness in enabling scientists to study such a country as a whole, to record its geographical features, to note the nature, distribution and extent of its forest types, and to plan routes and fix landmarks for ground exploration.

"It is certain that in many regions the plane can be used to transport, set down on lakes or savannas, and pick up again, small parties of scientific workers, thereby enabling them safely and easily to cover, in weeks, territory which would require months and whole seasons of difficult and dangerous ground travel.

"The purely scientific aspects of the flights, together with observations as to the specific value of the aeroplane in the surveying of regions densely overgrown by tropical vegetation, will be treated by Mr. Rickatson and the writer in articles to be prepared for publication in geographical and anthropological journals."



Map of the Maya region showing the course of the day-by-day flights of Colonel Lindbergh's party and the location of the ruins observed and photographed.

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## BOOK CRITIQUES

*Cast in Bronze.* By Gertrude Huntington McGiffert. Pp. 100. The Mosher Press, Portland, Me. 1929. \$1.75.

This second book of collected poems by Gertrude Huntington McGiffert, falls coin-like into the hand bearing on the one side the insignia, "student of classical literature" and on the reverse, "travel-philosopher".

Writing of Egypt, of Greece, of Palestine, the poet is a connoisseur of impressions: arid desert, jade-cool grotto, dingy rainbow of crooked street. Words become fine grains of sand running through the hour-glass of her imagination to assume the shape of the Great Pyramid or the Sphinx—"like a petted kitten" that "curled suddenly about my finger". All the desolation of ruined empire is in those scattered sands, those syllables with which she summarizes an eastern civilization:

*In the desert I face her old stark fear of death  
Alone  
That from heart of clay has entered into the  
stone.*

Although her Greek analecta, including a number of translations from the Greek Anthology, compose the longest division in the book, there is more memorable imagery to be found in the shorter sections preceding and following it. Such imagery as:

*Night herds the hill-tops homeward.*

One of the most beautiful poems in the book is the dedicatory sonnet. Certainly it and others of this brief collection indicate a fine balance of thought and expression. If Mrs. McGiffert's thought is often finer than her expression it is a fault of technique rather than vision. Would that more of our current poetic coinage were cast in bronze!

MARGARET TOD RITTER.

*Sandford, K. S. (and W. J. Arkell). First Report of the Prehistoric Survey Expedition (with a Foreword by the editor, James H. Breasted). Oriental Institute Communications No. 3 (University of Chicago Press, 1928).*

The authors are concerned primarily with the history of a great river—the Nile—geologically as well as prehistorically. They find in the valley of the Nile a series of five terraces. The oldest is 150 feet above the present stream, and represents the earliest river-stage after the lake- or gulf-stage of the Nile valley. So far as yet known, this terrace contains no human artifacts. The next terrace in point of height and age is the 100-foot level, and in this implements are plentiful in certain places. These

belong to the Chellean Epoch, an early phase of the Paleolithic. Then follow in their turn the 50-foot terrace with implements of the Acheulian type; the 25-30-foot terrace with implements of an early Mousterian type; and the 10-15-foot terrace with implements belonging to a later Mousterian phase.

A new technique made its appearance in Egypt in post-Mousterian times; it has affinities with what is known in northern Africa as Capsian, which corresponds with the Aurignacian, Solutrean and Magdalenian (Upper Paleolithic) of Europe. The industry with Capsian affinities is found *in situ* in a silt deposit north of the First Cataract. Near the cataract, this silt deposit is above the present-day level of the Nile, while farther north it is below the present-day level. Between the Capsian and the Neolithic there is at present a hiatus, which the Prehistoric Survey hopes to bridge.

The Oriental Institute has made a most auspicious beginning in that which for it is a new field, namely, Old-World Prehistory, a field in which the American School of Prehistoric Research has for the past eight years been endeavoring to do its bit by training students for field work and for teaching prehistory as well as manning and maintaining expeditions.

GEORGE GRANT MACCURDY.

*Sounding Stones of Architecture.* By Philip N. Youtz. Pp. xii, 256. W. W. Norton & Co., Inc., New York. 1929.

This is a series of essays on what architecture means—and it means a lot—in philosophy, in civilization, in life. "Architecture," says the author's preface, "is interesting from so many angles that if the critic is not on his guard he will fall into the confusion of babbling about them all at once." Not to babble then, but to be brief as critic may be, here is what the book offers: Sounding Stones (preface), Towers of Babel (definition), Visual History (symbolism), Tools of Stone (function), Solid Geometry (structure), Still Passion (materials), Language without Words (style), Pure Art (design), Experimental Verity (construction), Architectural Perspective (aesthetics). This is the table of contents, and in the phrasing of these titles and sub-titles there is hint of the rich quality of this book, written in a pleasantly flowing style, serious, genial and as easily understandable for laymen as for the artist.

Grace and humor march, one might say dance, through these essays, seldom contro-

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versal, now and then accepting and finding ways to reconcile opposing systems of aesthetics, even, perhaps, showing inconsistency at a corner here and there with close driving. The book is never too didactic. Rather is it engagingly human, modern in thought but reverent of the great past, and not making too much of our amazing twentieth century speed and inventiveness. There is no shouting of erudite stuff from the chair, but the author is always sensitively aware of those values in art which lean toward the mystical and may scarce be measured, certainly never lend their essence to formula, being of the world of the spirit.

This perception of the intangible properties of art is one of the chief excellencies of the work, which yet is never vague. "As pure art," he says, "architecture transcends its practical purpose, its mathematical structure the perplexities of construction, its sensuous materials, and dwells in the rarefied atmosphere of geometric solids, of intricate configuration."

The reader of Mr. Youtz's book—and everyone should read it—will find him in the current, when he is not looking on observantly

from the bank, reliably fresh and original, profound and sympathetic. He is very definitely all this. The book is rarely good reading.

A. BURNLEY BIBB.

*Four Dialogues on Painting. By Francisco De Hollanda. Rendered into English by Aubrey F. G. Bell. Pp. xv, 110. Oxford University Press, London and New York, 1928. \$2.25.*

These Dialogues are discussions of painting recorded by the young Portuguese artist Hollanda, who was born in Lisbon in 1517 or 1518. He went to Italy when a young man of twenty to copy masterpieces of Renaissance art. His father was a distinguished illuminator and he was brought up at Court in the household of the Infante Fernando at Lisbon. When he arrived at Rome he became an intimate friend of Michel Angelo, to the surprise and jealousy of the young Italian artists.

Though the great Italian artist was sixty-four years old he became interested in the young Portuguese, and the discussions they had about painting in all its phases, in which they were joined by the Ambassador of Siena

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in Rome, Lattanzio Tolomei, and the Marchesa di Pescara, of the noble house of the Colonnas, were interesting and most illuminating. A new and intimate view is given of Michel Angelo, through the description of his super-human work in the Sistine Chapel and his visits to the Church of San Silvestro, where he went for a quiet siesta beneath the trees of the Cloister garden; then his joining the little group for their frequent talks, which the young Hollanda recorded. He remained nine years in Italy, visiting other cities beside Rome making drawings of all the principal buildings, a book full of which is preserved in the Escorial. When he returned to Portugal he desired to be considered a Portuguese Michel Angelo.

He painted some notable pictures and when Philip II became King of Portugal he gave him a generous yearly pension.

Hollanda died June 19, 1584. The Dialogues were edited by Professor Joaquim de Vasconcellos at Porto in 1896, again at Vienna, and a French and Spanish version has been published. The first three Dialogues were translated into English and form an appendix to Sir Charles Holroyd's *Michael Angelo Buonarroti*, London, 1903.

The book is dedicated to "Archer Milton Huntington to whom all Spanish and Portuguese scholars are under an eternal debt of gratitude".

HELEN WRIGHT.

*The Evolution of Art.* By Ruth de Rochemont. Pp. xiv-635. 17 illustrations. The Macmillan Company, New York. 1929. \$6.

The Evolution of Art, by Ruth de Rochemont, is a richly and facily written story of painting, sculpture and print-making in Europe and America. It needs abundant illustration if the story is to carry appreciation; but any reader could buy, from the pictures mentioned in the excellent index, a little stack of penny reproductions (e. g., The University Prints), which would make the book more readable and very valuable.

The facility of the writer, whose sentences flow in pleasant rhythm, has led her into numerous slips of the pen. But no one would seriously accuse Miss de Rochemont of thinking that Rubens served the governors of Holland (p. 436) or that St. Stephen was martyred with arrows (p. 27); and the reader is no more likely than the proof reader to notice such slips.

The viewpoint of the author is distinctly classical. Perfection is her ideal. She finds scant pleasure in primitives and moderns.

"... We shudder to think what world would lie before us should we ever learn to see what Cezanne and Matisse and Picasso and their followers record in their paintings." She speaks of the distinguished Maidens of the Akropolis as "the so-called Aunts". One is tempted to think she must be an aunt herself. Yet about the handsome classical volume is wrapped a modernistic jacket inscribed "ruth de rochemont". And she does write with a breezy pen.

ROSSITER HOWARD.

*The Excavations at Dura-Europos, conducted by Yale University and the French Academy of Inscriptions and Letters. Preliminary Report of First Season of Work, Spring, 1928. Edited by P. V. C. Baur and M. I. Rostovtzeff. Pp. X, 77. Yale University Press, New Haven. 1929. \$1.*

The report of the results of Yale's first campaign of excavation at Dura was published only after the conclusion of the second season of work. It is rumored that the second campaign was very successful and prospects are promising for next season. The terms of Yale's coöperation with the French Academy of Inscriptions are not stated but presumably this is another archaeological expedition that is financed by Americans but directed by a foreigner. The first season was of brief duration, lasting from three to four weeks. The exact period is differently given on pages 2 and 11. There are also other evidences of lack of coördination among the six contributors to the report. Measurements of objects are repeated within the space of a few pages and in two instances they are not in accord. The circumstances attending the discovery of a marble relief are differently stated on pages 24 and 75. Excavations were conducted at the great gate of the fortifications on the southwest side of the town. Many inscriptions were found on the inner walls, most of which are of a late commemorative type, consisting chiefly of proper names. They are dated by Mr. Rostovtzeff from 65 to 262 A. D. Mr. Torrey discusses two Palmyrene votive inscriptions of which one, a dedication to Nemesis, is accompanied by a Greek translation. In addition to the sculptured stele dedicated to Nemesis the field of sculpture is represented by two late reliefs of Herakles, one of which is the subject of a brief study by Mr. Baur. Trials in various parts of the area also disclosed houses and late burials. These are the results of a short three weeks' campaign, and the report of the succeeding full season will be awaited with interest.

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